

FINAL TUKWILA TRANSIT NETWORK PLAN

For:

**City of Tukwila
6300 Southcenter Boulevard
Tukwila, WA 98188**

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Chapter 1: Introduction

1.1 PROJECT BACKGROUND

The City of Tukwila requested technical assistance to conduct a Transit Plan of existing Sound Transit and King County Metro routes within Tukwila in order to better meet the needs of the communities, residents, employers, and employees. The goal was to improve and maximize usage of all transit service in the area, make service faster, more effective, and help Tukwila meet its development potential.

In April 2003, The City of Tukwila initiated the Tukwila Transit Plan, which will be a component of the Comprehensive Plan Update. Three different efforts are being addressed by the Tukwila Transit Plan; supporting the Tukwila Urban Center (TUC) effort, and developing a short- and long-range transit vision for the City of Tukwila.

1.2 AREA DESCRIPTION

The City of Tukwila is located approximately 11 miles south of downtown Seattle. According to the 2000 census, the City has a population of approximately 17,000 residents. In 2002, Tukwila had over 34,000 jobs.

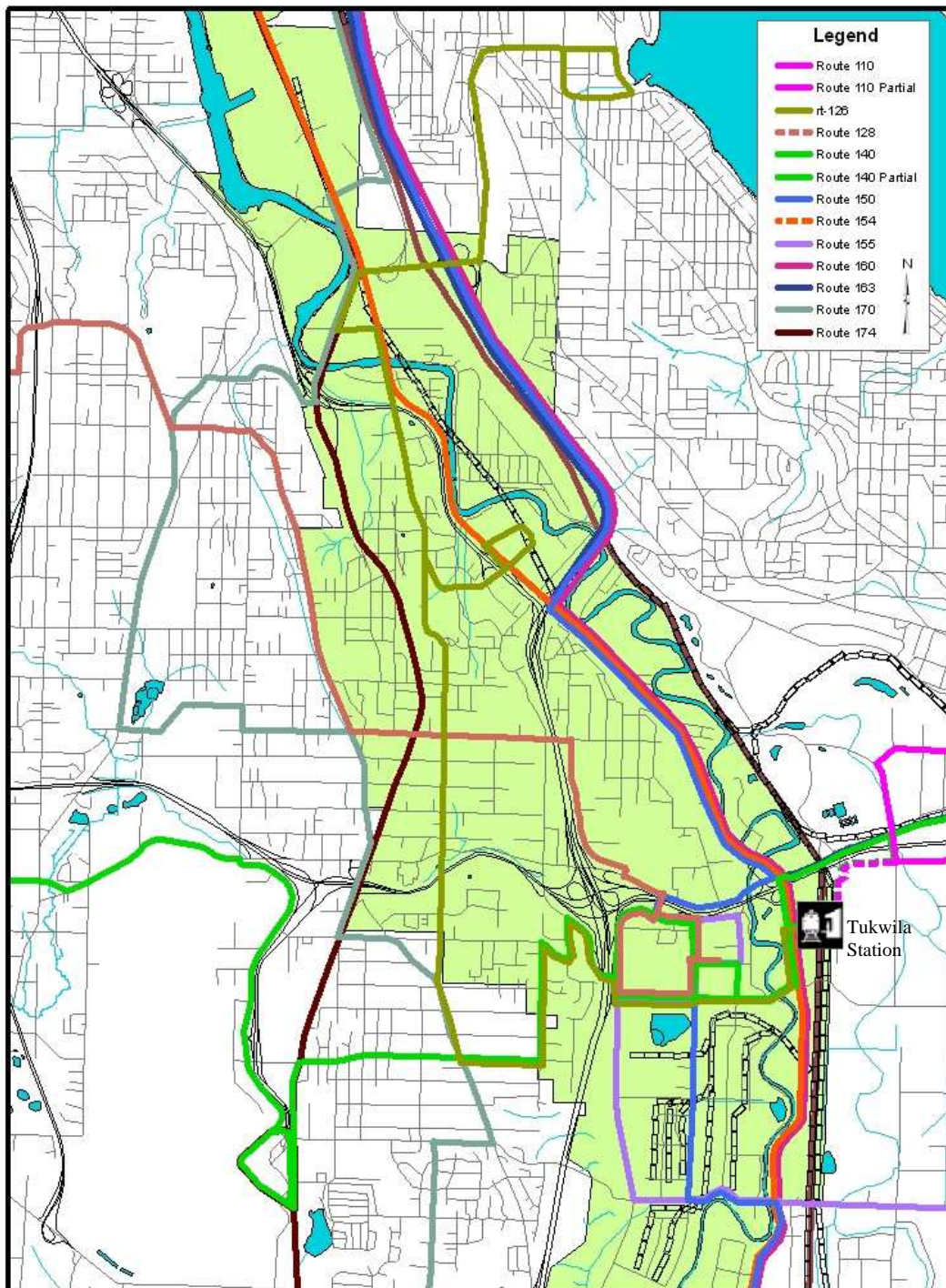
The Tukwila Transit Plan study area is bounded by the city limits. Land uses in Tukwila are a mixture of several different distinct land uses, ranging from residential, warehouse/distribution, office, to retail development.

Northern Tukwila is characterized by industrial and manufacturing land uses. Western and eastern Tukwila have residential neighborhoods. In South Tukwila, the Tukwila Urban Center, is one of the regional retail powerhouses and is characterized by a regional mall, Westfield Shoppingtown Southcenter (Southcenter) as well as the supporting retail development surrounding it. The southern portions of the TUC are primarily characterized by warehouse/warehouse-retail types of land uses. There are virtually no current residents in the TUC study area.

King County Metro provides bus service throughout the City of Tukwila. Fourteen different routes provide intra-Tukwila service and direct service to Burien, Kent, Auburn, Seattle, Renton, and West Seattle. At this time, Sound Transit does not serve any destinations in Tukwila with Regional Express Bus service. Sounder, the regional commuter rail service, has a stop in Tukwila at Tukwila Station. Sounder commuter rail service currently consists of three trains to Seattle in the morning peak and three trains to Tacoma in the afternoon peak. **Figure 1-1** shows the existing routes within Tukwila.

The Southcenter Mall is the focal point of transit service within Tukwila. Five routes connect at this location. Of those, Routes 128 and 155 terminate at the Mall and Route 126 terminates at Tukwila Station. The remaining two routes, Route 140 and Route 150, represent the major east-west and north-south routes through Tukwila.

Figure 1-1
Existing Tukwila Routes



Routes in the Tukwila include:

110 Tukwila Station – North Renton	155 Fairwood – Southcenter
126 Rainier Beach – Tukwila Station	160 Kent East Hill – Tukwila – Seattle
128 Southcenter – Admiral District	163 Kent East Hill – Tukwila – Seattle
140 Burien – Renton	170 McMicken Heights – Seattle
150 Auburn – Seattle	174 Federal Way – SeaTac – Tukwila – Seattle
154 Auburn – Boeing Industrial	941 Star Lake – First Hill
	Souder Commuter Rail

1.3 PROJECT OBJECTIVES

Several objectives guided the Tukwila transit planning effort. Those objectives include:

- To ensure the compatibility of system planning with other local and regional long-range planning efforts.
- To determine the feasibility of implementing expanded transit services and facilities in Tukwila.
- To identify approaches to improving system ridership productivity, service cost effectiveness, and cost efficiency.
- To determine a future route network which will best meet anticipated demand for services.
- To improve system connections, transfer options and facilities.
- To identify optimal locations for additional system facilities.

1.4 PROJECT REPORT OVERVIEW

This section summarizes the information gained and developed during the development of the Tukwila Transit Plan. That effort has resulted in a determination of the existing conditions under which King County Metro currently operates and a documentation of expectations for future service.

The remainder of this report is divided into chapters summarizing the results of a task or group of tasks within the project. A number of differing information sources have been employed in compiling this summary of project findings. Among these sources are:

- A review of previously-adopted plans, goals and objectives of Tukwila, King County Metro, and Sound Transit,
- Three focus groups,
- Intercept surveys of Souder and King County Metro riders,
- Boarding and alighting counts of all King County Metro Weekday, Saturday, and Sunday services,
- Observations of King County Metro operations,
- Community data and observations, and
- Public outreach and participation, including five Transit Oriented Development (TOD) and Tukwila Urban Center (TUC) workshops.

The remainder of this document is organized into a number of individual chapters, documenting the findings of the tasks comprising the Tukwila Transit Plan. In general, the organization of this report is as follows:

- **Chapter 1** gives a short overview of the Tukwila Transit Plan, including a short history and background of the area, and describes the organization of the remainder of the Project Report.
- **Chapter 2** describes the findings and conclusions developed from the market research, including focus groups and intercept surveys.
- **Chapter 3** summarizes data analysis utilized to support the project recommendations, including the boarding and alighting counts and on-site observations.
- **Chapter 4** describes the project recommendations based upon the data analyzed as described in Chapter 3, including individual route alignment and schedule changes, additional services required to help meet system service goals and objectives, regional service expansion and system governance.
- **Chapter 5** summarizes capital analysis used to support project recommendations for capital facilities and infrastructure within Tukwila, including passenger amenities, shelters, bus stop locations, and transit signal priority.

Chapter 2: Market Research

The Transit Plan included an assessment of the attitudes and awareness of transit operations of its riders and non-riders. Four different efforts were undertaken to understand the existing market and market potential. The King County Metro *2001 Rider/Nonrider Survey* was reviewed. In addition, the results of three focus groups, a Southcenter intercept survey, and a Tukwila Station intercept survey are described in this section. Full documentation of the focus group survey may be found in Appendix A.

2.1 2001 RIDER/NONRIDER SURVEY FINDINGS

The King County Metro *2001 Rider/Nonrider Survey* provides valuable insight into the potential transit market for Tukwila. In particular, the origin and destination of travel to/from Tukwila is indicative of how well today's transit service is meeting the needs of commuters.

The *2001 Rider/Nonrider Survey* shows that the number of King County workers commuting to South King County jobs has increased from 17 to 19 percent between 2000 and 2001. The largest destinations are:

- Renton (32%)
- Kent (22%)
- Auburn (10%)
- Sea-Tac (12%)
- Federal Way (7%)
- Tukwila/Southcenter (7%)

According to the survey, nearly half of South King County residents work in a South King County destination. Destinations for South King County residents include:

- South King County (45%)
- Downtown Seattle (17%)
- North King County (19%)

Some of the key findings of the *2001 Rider/Nonrider* survey are that:

1. South King County residents tend to work in South King County.
2. Tukwila/Southcenter is one of the largest destinations for commuters in South King County.
3. Intra-South King County connections are crucial in serving the South King County travel market.

2.2 PUBLIC FOCUS GROUP DISCUSSIONS

Public focus group discussions provided a valuable assessment of local transit needs and opportunities in Tukwila. Three focus group discussions were conducted with transit users and with business owners and managers to learn more about attitudes toward current services and desired improvements to services and facilities. Two rider groups were divided as follows: (1) riders living in Tukwila or Renton, and (2) riders traveling in or through Tukwila from other locations. A third discussion was conducted with Tukwila business owners and managers. The brief focus groups helped to identify commuting patterns, satisfaction with current transit operations, suggestions for service improvements in the study area, and perception of transit's image in Tukwila. All of the groups were consistent in their suggestions for improving transit service and facilities in Tukwila. **Figure 2-1** represents the major themes from those discussions.

Figure 2-1 Focus Group Discussion Summary

Route Improvements Desired:

- Provide some type of shuttle, or other frequent bus service between the Southcenter Mall and the businesses along or near Southcenter Parkway. People who work and shop in the Tukwila Urban Area and want to use transit are currently limited in their access to all of the businesses in the area.
- Provide additional express options. Tukwila is a transit hub. Each day, thousands of people pass through the area traveling to other destinations. Despite this fact, transit does not yet provide express options for many of these destinations. There is an especially high demand for more express options from Tukwila to Downtown Seattle.
- Provide service from Tukwila west to Highway 99 and east to the Kent Valley.

Scheduling Improvements Desired:

- Increase frequency of service on major routes. Many of the major routes need more frequent service (Routes 101, 150 and 174 were mentioned); and express bus hours should be extended to provide service for those who work beyond the traditional 8 AM to 5 PM workday (Routes 140, 160, 163, 240 and 941 were mentioned).
- Modify service to reflect current transit needs. Tukwila is a major destination. Although the population of Tukwila is small, each day some 50,000 people (according to an estimate from one of the participants in the business discussion) come to Tukwila to work. Additionally, thousands come to Tukwila to shop, especially on Friday, Saturday and Sunday. The current transit routes and schedules do not appear to respond to these needs.
- Improve Sounder service and improve bus connections with Sounder. Varied work and shopping schedules now mandate that Sounder service be provided beyond traditional commuter times. Furthermore, additional bus connections are needed between Sounder and other travel destinations, as well as to businesses located within Tukwila.

Other Improvements Desired:

- Improve bus stop maintenance. Bus stop locations in Tukwila need to be better maintained and more bus shelters are needed (many riders are under the impression that the bus stops on the Eastside are nicer because they are in high income areas).
- Increase safety. Many people are concerned about safety on the buses, especially on buses that travel Highway 99 (Route 174). They want to see uniformed security people on routes that have a history of safety incidents.
- Provide additional bus stops around the Southcenter Mall.
- Increase marketing efforts. Transit is a concept that needs more marketing, in general. The major benefits – no parking costs, no traffic hassles, and in some instances, shorter travel times – should be known to more commuters. Many employers will be willing to help with marketing efforts if they are given the information to provide to their employees and if bus stops are conveniently located in relation to their workplaces.

2.3 INTERCEPT SURVEY SUMMARY

Perteet conducted an intercept survey of bus riders waiting for bus connections in Tukwila on May 14th and 15th, 2003 between the hours of 10 a.m. and 6 p.m. The surveys were handed out and collected at the Metro bus stop located at Andover Park West and Baker Boulevard (Southcenter stop). An additional survey was conducted at the Tukwila Station on May 14, 2003. Both boarding and debarking passengers were handed a survey.

Intercept surveys are not random sample surveys. Care must be exercised in inferring attitudes and travel patterns of the entire ridership, based on responses to this survey. Overall, we estimate that 15.5 percent of all riders at the Southcenter stop were surveyed and 41 percent of riders at the Tukwila Station were surveyed. Therefore, the intercept surveys should provide a valuable overview of rider opinions.

Key Findings from Existing Passengers

- The most common trip purposes are other¹ (24%), work (21%), personal errands (18%), and shopping (17%).
- Approximately 43 percent of those waiting at the Southcenter bus stop are waiting to transfer. Transfers to Routes 140 and 150 were the most common. Many of those waiting for a transfer went to Southcenter Mall to shop while waiting for a bus.
- Forty-three percent walked to the Southcenter bus stop from an area destination. Southcenter Mall was the origin of 70 percent of those walking to the Southcenter stop.
- Most riders walk, on average, three minutes or less to and from a bus stop.
- Most riders believe King County Metro is providing the right overall level of service to the Southcenter bus stop. Only 18 percent of respondents indicated there were times when bus service was lacking. Evening span, frequency, and weekend service were identified most often by those unhappy about the level of service.
- Eighty-nine percent of respondents indicated that Southcenter had bus service to the right destinations. Kirkland, Tacoma, Des Moines, and Seattle were the most frequently identified destinations without service from Southcenter.
- The top improvement priorities for Southcenter riders are improved shelters, benches, and associated capital amenities.
- The King County Metro VanShare program is crucial in serving the diverse travel patterns of passengers arriving at the Tukwila Sounder Station each morning.

2.3.1 Southcenter Bus Stop Passenger Survey Analysis

Perteet conducted an intercept survey of transit riders waiting for bus connections in Tukwila on May 14th and 15th, 2003, between 10 a.m. and 6 p.m. The surveys were handed out and collected at the Metro bus stop located at Andover Park West and Baker Boulevard (Southcenter stop). Based on King County Metro ridership data, a total of 1,244 passengers boarded buses at this location during the survey. Surveys were given to 341 riders, and 193 were returned, yielding an

¹ “Other” is defined as all trip purposes except for work, personal errands, shopping, school K-12, college/university, recreation/social, or medical.

overall return rate of 56.6 percent. Overall, we estimate that 15.5 percent of all riders at the Southcenter stop were surveyed. The results, while self-selected, are statistically valid.

Transit Accessibility

The survey asked waiting passengers how they arrived at the Southcenter bus stop. Passenger transfers (43%) and walking (43%) were the two most common responses (**Table 2-1**). After transfers and walking, motor vehicle (12.7%) was the next most frequent mode choice. Bicycle arrivals account for the remainder of survey respondents. It should be noted that some survey respondents selected more than one travel mode, so the total percentages reported total more than 100 percent.

Table 2-1
Travel Mode Distribution

Mode	Responses Counted	Percent	
		of Responses	of Total
Transfer	115	42.8%	59.6%
Walk	115	42.8%	59.6%
Drove	4	1.5%	2.1%
Dropped Off	18	6.7%	9.3%
Motor Vehicle -Other	12	4.5%	6.2%
Bicycle	5	1.9%	2.6%
Total	269	100.0%	139.4%

Of the passengers who were transferring, approximately half were to Routes 140 and 150 (**Figure 2-2**). Metro Routes 39 and 128 also received a significant portion of the transfers, each with more than 10 percent of the transfer activity observed. Riders reported transferring to a total of six different routes (several passengers indicated transferring to routes that do not serve Tukwila; these routes were not counted in the Transfer Analysis).

The average transfer passenger waited more than 17 minutes for a connection, with a maximum transfer time of 45 minutes reported. Thirty percent of the transferring survey respondents indicated that they shopped while waiting for a connection. Approximately three-quarters of transferring riders indicated they engaged in retail activity (75.7%) while waiting.

A large number of respondents also indicated that they walked to the Southcenter bus stop. The average trip time for a pedestrian is three minutes. Responses indicate that the majority (70.3%) of pedestrians were coming from Southcenter Mall while 2.5 percent identified Target as the origin of their trip (**Figure 2-3**). The destinations of the remaining 27 percent were unspecified.

Figure 2-2
Routes Passengers Were Waiting to Transfer To

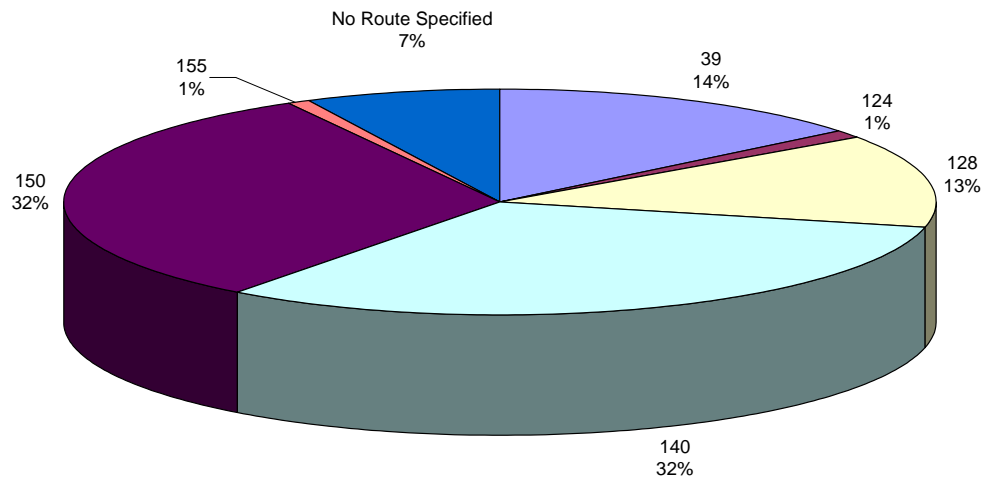
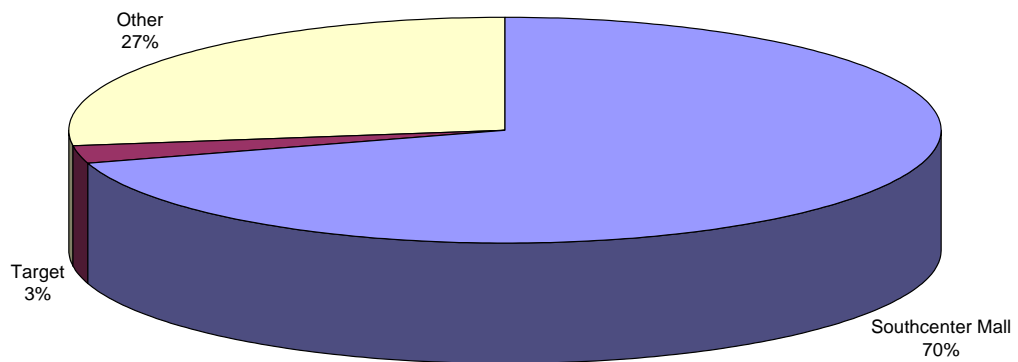


Figure 2-3
Origins of People Walking to Bus Stop



Destination Information

The survey counted more persons waiting at the Southcenter stop for Route 140 than any other bus route (**Table 2-2**). It should be noted that Route 150 actually has the highest ridership of any route at the Southcenter stop. According to the survey responses, Routes 150 and 128 both had significant ridership activity. Two other routes (39 and 155) were also identified, although none received more than 10 percent of the boarding activity.

Table 2-2
Destination Bus Routes

Bus Route	Responses Counted	Percent	
		of Responses	of Total
39	15	8.1%	7.8%
128	28	15.1%	14.5%
140	86	46.2%	44.6%
150	45	24.2%	23.3%
155	11	5.9%	5.7%
Total	185	100.0%	96.4%

The survey asked each person to identify his or her trip destination (**Table 2-3**). More respondents indicated “Other” for their destination (24.3%) than any other destination. Work was the most frequently identified specific destination (21.0%) with personal errands (18.2%) and shopping (16.6%) the only other destination types that received more than 10% of riders, although Kindergarten through High School (6.6%) and College/University (5.0%) trips collectively account for 11.6 percent of respondent total trips.

Renton was the most frequent destination city for survey respondents (**Table 2-4**). Seattle and Kent were also frequent destinations at 18.2 percent and 14.7 percent, respectively. Less popular destinations included Burien (7.6%) and SeaTac (7.1%), while fewer trips were made to smaller or more remote destinations, such as Enumclaw, Boulevard Park, and White Center.

**Table 2-3
Trip Purpose**

Activity	Responses Counted	Percent	
		of Responses	of Total
Work	38	21.0%	19.7%
Personal Errands	33	18.2%	17.1%
Shopping	30	16.6%	15.5%
School K-12	12	6.6%	6.2%
College/University	9	5.0%	4.7%
Recreation or Social	8	4.4%	4.1%
Medical	7	3.9%	3.6%
Other	44	24.3%	22.8%
Total	181	100.0%	93.8%

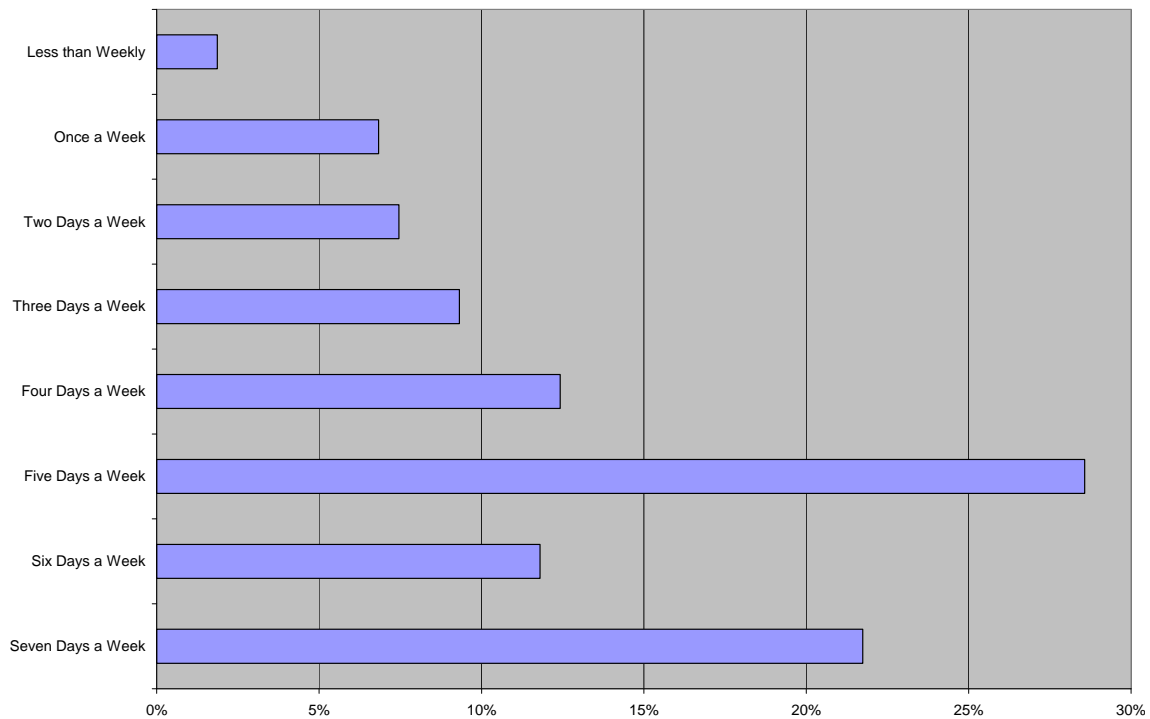
**Table 2-4
Destination City for Current Trip**

Destination City	Responses Counted	Percent	
		of Responses	of Total
Renton	38	22.4%	19.7%
Seattle	31	18.2%	16.0%
Kent	25	14.7%	13.0%
Tukwila	17	10.0%	8.8%
Burien	13	7.6%	6.7%
SeaTac	12	7.1%	6.2%
Auburn	9	5.3%	4.7%
Federal Way	6	3.5%	3.1%
Southcenter	4	2.4%	2.1%
West Seattle	3	1.8%	1.6%
Airport	3	1.8%	1.6%
Skyway	3	1.8%	1.6%
Tacoma	1	0.6%	0.5%
Des Moines	1	0.6%	0.5%
White Center	1	0.6%	0.5%
Boulevard Park	1	0.6%	0.5%
Enumclaw	1	0.6%	0.5%
Fairwood	1	0.6%	0.5%
Total	170	100.0%	88.1%

Rider Information

More than half of survey respondents ride the bus five or more days per week (**Figure 2-4**). An additional 18.2 percent of respondents indicated that they ride the bus three to four times per week. Overall, the overwhelming majority of respondents were regular bus riders.

Figure 2-4
Bus Ridership Frequency

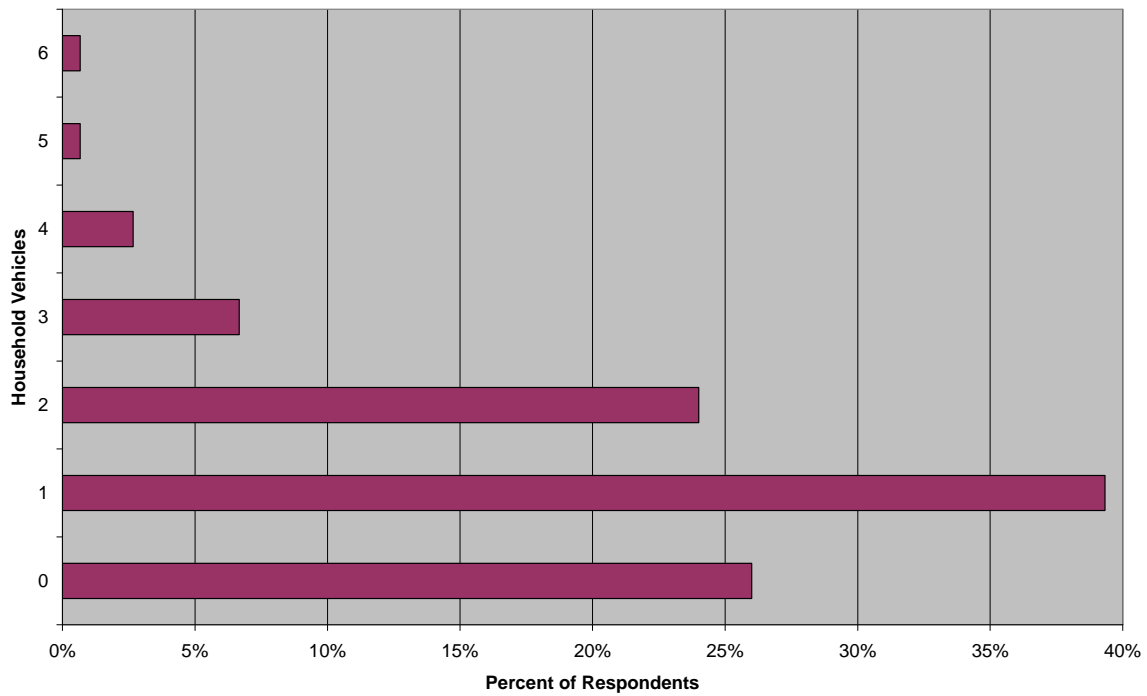


The average trip length reported by survey respondents was 33.2 minutes. The longest trip time reported was 99 minutes, while the shortest trip was anticipated to take only 2 minutes. Just more than half (50.2%) of the trips were anticipated to take between 10 and 30 minutes, while 29.5 percent were anticipated to take longer than 30 minutes.

Over half (57%) of respondents indicated that they did not have a current drivers license and more than two thirds (73.3%) did not have a vehicle available for to make their trips. Based on the responses, the majority of transit users at the Southcenter Mall stop are captive riders. Only about a quarter of riders are choice riders.

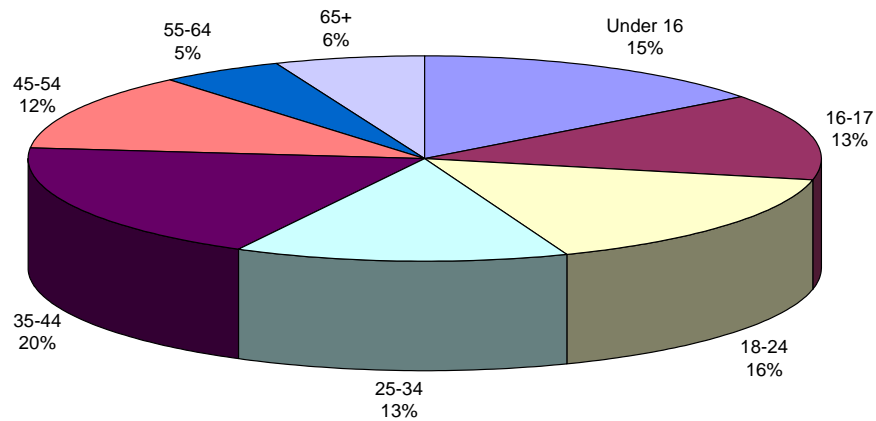
Slightly more than a third of those responding to the survey had one vehicle available in their households (**Figure 2-5**). About 26 percent of respondents indicated they had no vehicle available. This, along with the fact that over half of respondents do not have a driver's license, confirms that few riders at the Southcenter stop are choice riders.

Figure 2-5
Number of Vehicles in Household



There was a fairly even distribution of ages found in the survey (**Figure 2-6**). One third of respondents were under the age of 18. Most age brackets had 10 percent representation. Only 9.3 percent of the respondents were 55 or older. Survey respondents tended to be male (56%). This is an interesting result, as the prototypical rider in King County is a female.

Figure 2-6
Respondent Age Distribution



Areas for Improvement

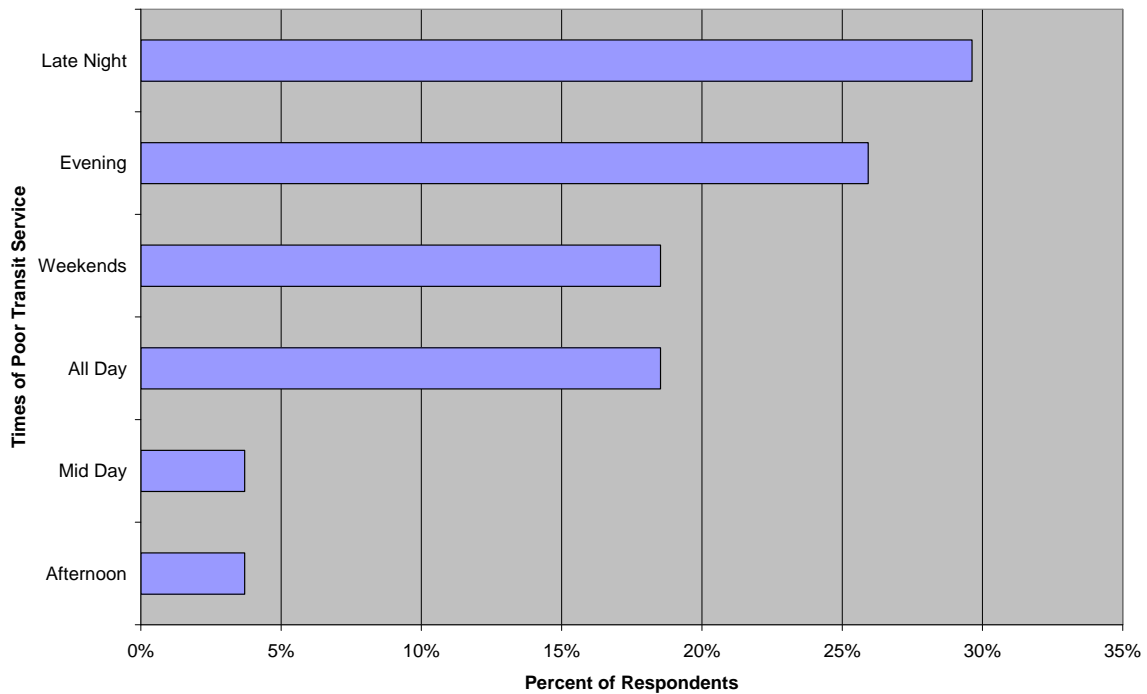
The survey asked in an open-ended question if there were any destinations that were difficult to reach within and from Tukwila. Multiple survey respondents identified Tukwila destinations at Southcenter Parkway, the other side of Southcenter Mall, Allentown, and the existing transit focal point of Andover Park West and Baker Boulevard (where this survey was conducted) as difficult to reach. Eleven percent of respondents indicated that cities outside of Tukwila were difficult to access. According to them, Kirkland, Tacoma, Des Moines, and Seattle were the most difficult cities to reach by bus (**Table 2-5**). Neither Tacoma, Des Moines, nor Kirkland has direct bus service from Southcenter.

Table 2-5
Destinations Difficult to Reach from Southcenter

Destination City	Responses Counted	Percent	
		Of Responses	of Total
Kirkland	5	21.7%	2.6%
Tacoma	3	13.0%	1.6%
Des Moines	3	13.0%	1.6%
Seattle	3	13.0%	1.6%
Renton	2	8.7%	1.0%
Burien	2	8.7%	1.0%
Auburn	1	4.3%	0.5%
Federal Way	1	4.3%	0.5%
SeaTac	1	4.3%	0.5%
Bothell	1	4.3%	0.5%
Lakewood	1	4.3%	0.5%
Total	23	100.0%	11.9%

The survey asked if there were times of the day that bus service was less poor (**Figure 2-7**). Only 18 percent of riders indicated that there is a time when bus service is lacking. Among respondents, riders who indicated that there are times that need improved service, late night service after 11 p.m. and evening service after 6 p.m. were the most frequent responses. Weekend and all-day service improvements were identified as potential improvements as well. From the results of the survey, it appears that existing patrons are satisfied with the level of peak hour service.

Figure 2-7
Times of Poor Transit Service to Southcenter



The most common improvement requested by riders was the provision of benches or other seating space at transit stops, with 25 percent of all riders identifying it as an improvement (**Table 2-6**). In addition, bus shelters were also identified by an additional 16 percent of respondents for a total of slightly over 40 percent of respondents indicating that capital improvements are desired improvements. Frequency, span of service, and weekend service were much less frequently indicated as an improvement. Usually, in rider surveys, frequency tends to be the most requested improvement desired. The results of the survey confirm that the Southcenter stop capital facilities are less than optimal.

Table 2-6
Service and Capital Improvements Desired by Existing Passengers

Improvement	Responses Counted	Percent	
		of Responses	of Total
Seating Space/Benches	12	24.5%	6.2%
Shelter	8	16.3%	4.1%
More Frequency	4	8.2%	2.1%
Sundays	3	6.1%	1.6%
Later Hours	3	6.1%	1.6%
Transfer Center	3	6.1%	1.6%
Trash Control	3	6.1%	1.6%
Pay Phones	2	4.1%	1.0%
On Time	2	4.1%	1.0%
Post Schedule	2	4.1%	1.0%
Everything New	2	4.1%	1.0%
New Paint	1	2.0%	0.5%
Smoking Area	1	2.0%	0.5%
Park and Ride Lots	1	2.0%	0.5%
Pedestrian Crossing Light	1	2.0%	0.5%
Other	1	2.0%	0.5%
Total	49	100.0%	25.4%

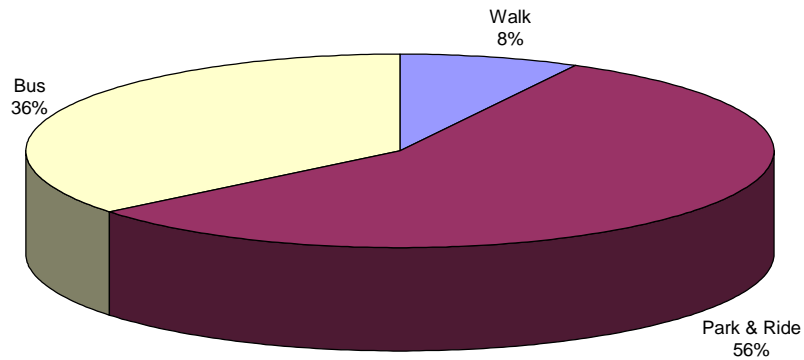
2.3.2 Longacres Passenger Survey Analysis

An additional survey was conducted at the Tukwila Sounder Station on May 14, 2003. Both boarding and deboarding passengers were handed a survey. Of the 108 passengers who accessed Sounder at Tukwila Station on May 14, 44 responded to the survey; an effective response rate of 41 percent. It should be noted that care should be given in drawing conclusions from this survey, as the sample size is only 44 respondents.

Transit Accessibility

Ninety percent of all respondents were traveling from points south of Tukwila to Tukwila Station. Upon arriving at Tukwila Station, the majority of respondents traveled to their destination via vehicles parked at the park-and-ride (**Figure 2-8**), i.e., VanShare vehicles. King County Metro operates a VanShare program, which allows 3 or more commuters to share a vanpool vehicle from a park-and-ride to their destination. There were 20 VanShare vehicles parked at the Tukwila Station prior to the arrival of the first train. Only 8 percent of respondents walked to Tukwila Station. The low number of pedestrians accessing the station is no surprise given the location and the distances and walking environment to the closest places of employment.

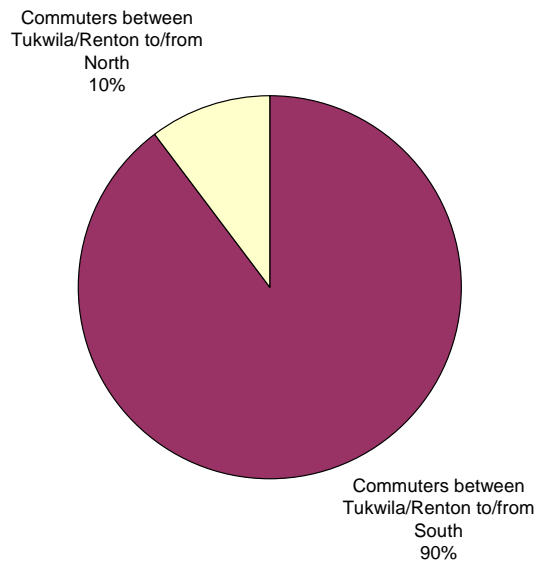
Figure 2-8
Tukwila Station Mode Split for Disembarking Passengers
 (how passengers get to their destinations from Tukwila Station)



Origin Information

The majority of people accessing the Tukwila Station are headed to/from points south, such as Auburn, Tacoma, and Puyallup (**Figure 2-9**). Only a small percentage of riders are heading north on Sounder. According to May 2003 Sound Transit passenger counts, approximately 100 passengers arrive in Tukwila on Sounder and 20 depart on Sounder in the morning peak. Tukwila Station is the only Sounder station other than downtown Seattle that is primarily a destination.

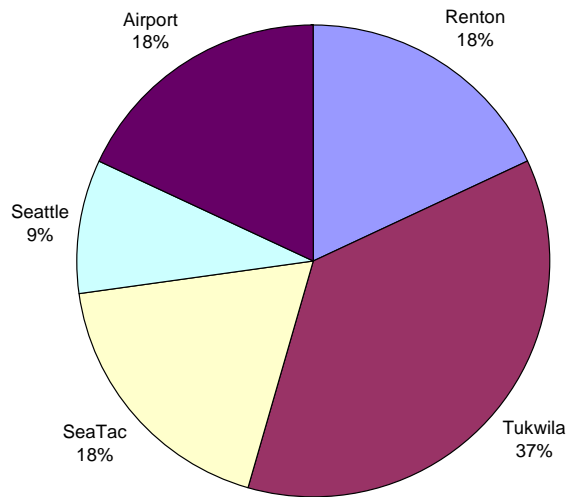
Figure 2-9
Origins of Tukwila Sounder Patrons



Destination Information

Upon arriving in Tukwila, passengers fairly evenly distribute themselves with destinations in Renton, Tukwila, and SeaTac (**Figure 2-10**). SeaTac (and the Airport) and Tukwila were the most frequently identified destinations from the Sounder Station. The destination pattern shows the importance of the VanShare program, as regular transit service would be hard pressed to serve this variety of destinations well.

Figure 2-10
Destinations for Sounder Passengers Coming to Tukwila Station

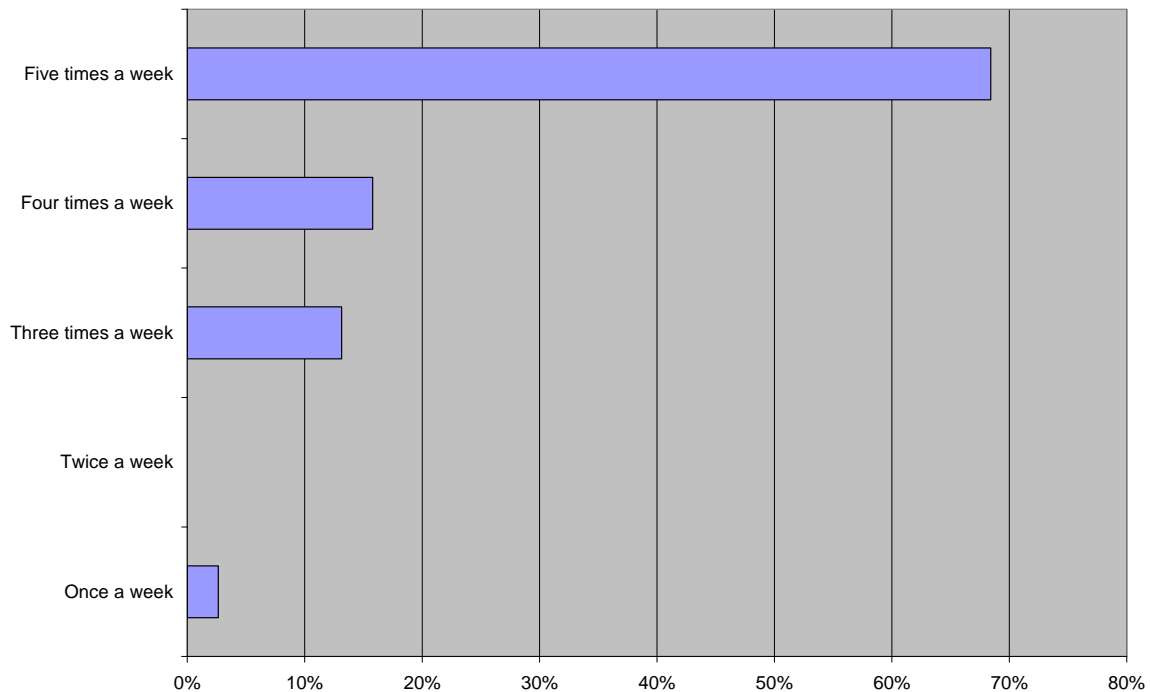


Rider Information

Work was identified as the primary trip purpose for 95 percent of all respondents, which is to be expected given the limited train schedule.

The majority of passengers surveyed indicated that they rode Sounder five days a week (**Figure 2-11**). The number of occasional riders was low. This is not surprising, due to the large dependence on VanShare to get to destinations; the use of VanShare requires an on-going commitment.

Figure 2-11
Respondent Sounder Usage



Nearly all of surveyed riders (98%) indicated that they have a current drivers license. Also, nearly all surveyed riders (95%) had a vehicle available to make this trip. Clearly, the passengers using Sounder to Tukwila Station are overwhelmingly choice riders.

The age range of riders was concentrated among the usual employee profile. There were virtually no elderly, pre-teen, or late teen riders. Almost all riders were aged 25-34 (11 %) and 35-55 (84%). Just over half of riders were men (52%).

Areas for Improvement

The sample size is too small to statistically validate the areas for potential improvement. However, the responses do give a clue as to potential connections and potential improvements. Survey respondents identified Southcenter, Interurban Avenue, the King County Metro South Base, and Group Health on East Marginal Way as difficult to reach. There were no instances of multiple areas being identified, although South Base and Group Health are immediately adjacent to each other.

The most common improvement requested by riders was the provision of shelters at transit stops. Three people (8%) identified those as an improvement. Specific locations were at the Sounder Station and Route 124 bus stop. Other requests included connection to the southbound Route 154 and better connections with Route 124.

Chapter 3: Service Analysis Data

3.1 OVERVIEW

This chapter summarizes the analysis of existing operations of transit routes in preparation for the development of route and schedule modification options to be described in Chapter 4. Among the subjects covered in this document are:

- Ridership by system and individual route;
- Service levels by system and individual route;
- Ridership productivity analysis;
- Service efficiency calculations; and
- Existing Service Providers Summary.

3.2 SYSTEM ANALYSIS

The analysis of Tukwila routes is based upon information provided by King County Metro staff. Data concerning the service span, service frequency, hours and miles of service provided, the hourly cost of services and ridership has been collected from a number of sources and consolidated into a number of tables and graphics which are displayed in this section.

3.2.1 Service Provided

King County Metro provides bus service throughout Tukwila with fourteen different routes. The characteristics of each route are discussed in this section.

Span of Service in Tukwila

For good availability of service, users must have both an adequate span and frequency of service options. **Tables 3-1, 3-2, and 3-3** provide an overview of King County Metro's service by time period for weekdays, Saturdays, and Sundays. In these tables, peak hour service is defined as 6 a.m. to 9 a.m., midday service is from 9 a.m. to 3 p.m., early evening service is from 6 p.m. to 9 p.m. and late evening service is from 9 p.m. to midnight.

It is clear that significant amounts of service are concentrated on peak hours and on the regional routes. Because of the strong peak orientation, transit is not regarded as a viable option for many types of trips; for example, major destinations such as the Southcenter Mall have high trip propensities on weekends and evenings, precisely when most local service no longer operates. In the interest of encouraging transit usage among both employees and customers of this facility, public transit services would need to operate late enough to serve these later hours of operation.

Table 3-1
Weekday Headways on King County Routes Serving Tukwila

Route	Destination	Peak (min.)	Midday (min)	Early Evening (min)	Late Evening (min)
110	Tukwila Station; Renton Boeing plant, PACCAR	30			
126	Tukwila Station, Southcenter, Gateway Corporate Center, Rainier Beach	30			
128	Admiral District, West Seattle Junction, South Seattle Community College, White Center, Highline Specialty Medical Center, Riverton Heights, Southcenter	30	30	30	
140	Burien, Sea-Tac Airport, McMicken Heights, Southcenter, South Renton P&R, Renton Transit Center	15	30	30	
155	Fairwood, Cascade Vista, Valley Medical Center, Southcenter	60	60	60	
150	Downtown Seattle, Tukwila P&R, Southcenter, Kent Boeing, Kent Transit Center, Regional Justice Center, Kent, Auburn	15	30	30	60
154	Federal Center South, Duwamish Boeing, Tukwila P&R, Kent Boeing, Kent P&R, Auburn	60			
160	Downtown Seattle, Tukwila P&R, Kent Boeing, Glencarin, Kent East Hill	30			
163	Downtown Seattle, Tukwila P&R, Valley Medical Center, Kent East Hill	30			
170	McMicken Heights – Boeing – Seattle	30			
174	Downtown Seattle, Duwamish/Boeing, Sea-Tac Airport, Midway, Federal Way	10-30	30	30	30
280	S. Renton P&R, Tukwila (Interurban Ave S. only), I-5, Downtown Seattle, SR-520, Bellevue, Renton				90
941	Providence Medical Center, Harborview, Swedish, Virginia Mason, Tukwila P&R, Star Lake P&R, Kent-Des Moines P&R	30			

Table 3-2
Saturday Headways on King County Routes Serving Tukwila

Route	Destination	Peak (min.)	Midday (min)	Early Evening (min)	Late Evening (min)
128	Admiral District, West Seattle Junction, South Seattle Community College, White Center, Highline Specialty Medical Center, Riverton Heights, Southcenter	30	30	30	60
140	Burien, Sea-Tac Airport, McMicken Heights, Southcenter, South Renton P&R, Renton Transit Center	60	60	60	
155	Fairwood, Cascade Vista, Valley Medical Center, Southcenter	60	60		
150	Downtown Seattle, Tukwila P&R, Southcenter, Kent Boeing, Kent Transit Center, Regional Justice Center, Kent, Auburn	30	30	30	60
174	Downtown Seattle, Duwamish/Boeing, Sea-Tac Airport, Midway, Federal Way	30	30	30	30
280	S. Renton P&R, Tukwila (Interurban Ave S. only), I-5, Downtown Seattle, SR-520, Bellevue, Renton				90

Table 3-3
Sunday Headways on King County Routes Serving Tukwila

Route	Destination	Peak (min.)	Midday (min)	Early Evening (min)	Late Evening (min)
128	Admiral District, West Seattle Junction, South Seattle Community College, White Center, Highline Specialty Medical Center, Riverton Heights, Southcenter	60	60	60	
140	Burien, Sea-Tac Airport, McMicken Heights, Southcenter, South Renton P&R, Renton Transit Center	60	60	60	
150	Downtown Seattle, Tukwila P&R, Southcenter, Kent Boeing, Kent Transit Center, Regional Justice Center, Kent, Auburn	30	30	60	60
174	Downtown Seattle, Duwamish/Boeing, Sea-Tac Airport, Midway, Federal Way	30	30	30	30
280	S. Renton P&R, Tukwila (Interurban Ave S. only), I-5, Downtown Seattle, SR-520, Bellevue, Renton				90

Service Frequency

Access to the transit network must also take account of the frequency of service being provided. As reflected in **Figure 3-1**, much of the service in Tukwila, particularly during evenings, operates at average headways in excess of 30 minutes. Based on national transit experience, choice riders can reasonably be expected to use service that operates every 30 minutes or better. Service operating at frequencies longer than every 30 minutes tends to attract only those riders with few other transportation choices. In **Figure 3-1**, Peak hour service is defined as 6 a.m. to 9 a.m., midday service is from 9 a.m. to 12 p.m., and evening service is from 6 p.m. to 9 p.m.

In general, service is most frequent during peak commuter times. However, there is one area in particular without adequate service levels; Southcenter Parkway. On Saturday, route coverage deteriorates as large areas within Tukwila have substandard service. On Sunday evenings, only transit service on International Boulevard operates at frequencies that typically attract choice riders.

Route Coverage

Overall route coverage, i.e., having a bus route within a quarter mile of any location within Tukwila, is quite good during peak hours. Most major streets and destinations have a bus route traveling past it on weekdays; the big exceptions are shown in **Figure 3-2**, Tukwila Hill and Duwamish/Allentown (both of which lost bus service September 2004). However, as demonstrated in the “Service Frequency” section, when only routes with adequate service frequencies are accounted for, the actual route coverage within Tukwila diminishes, particularly during weekends and evenings.

Figure 3-1
Areas in Tukwila Lacking 30-Minute Service

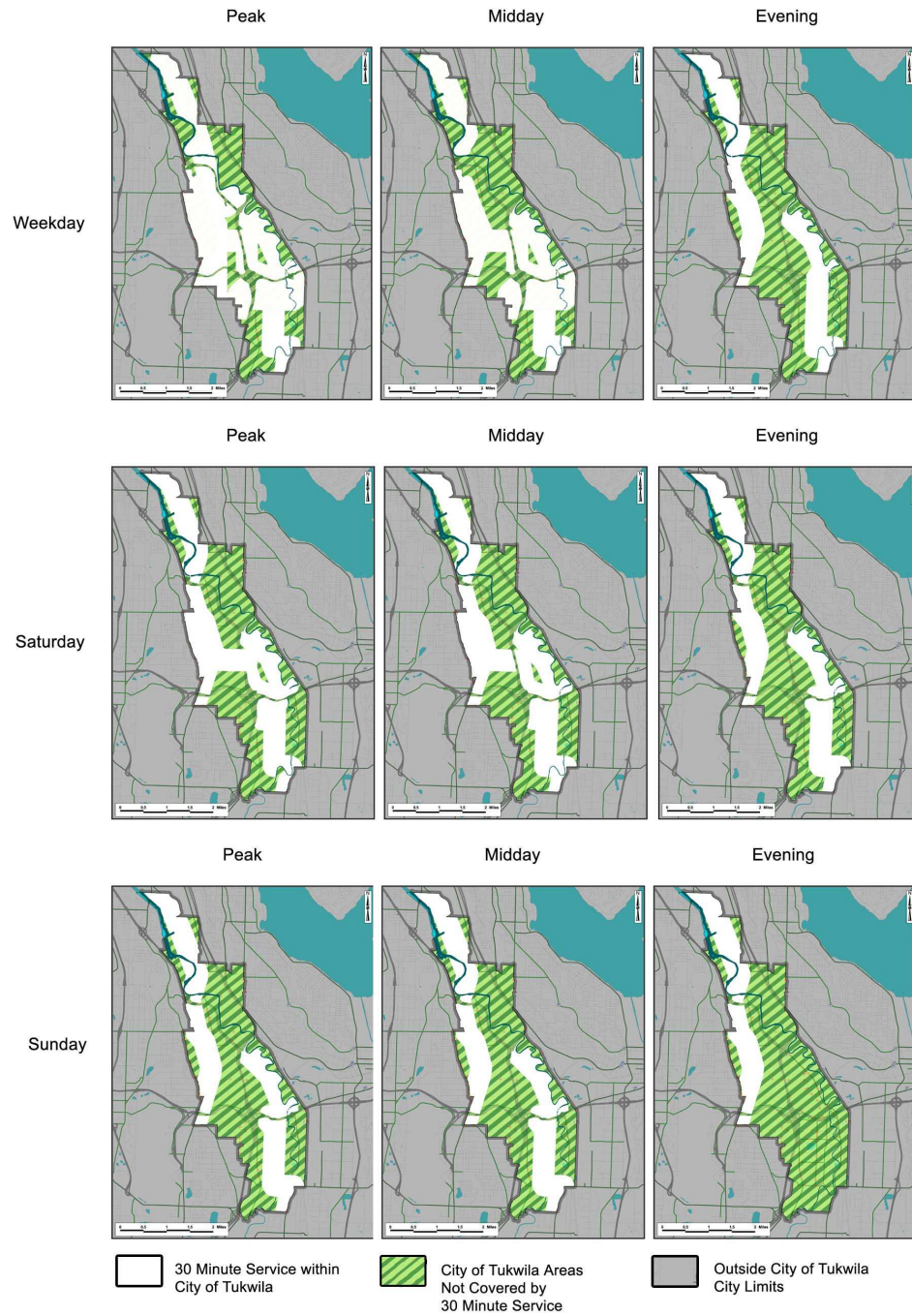
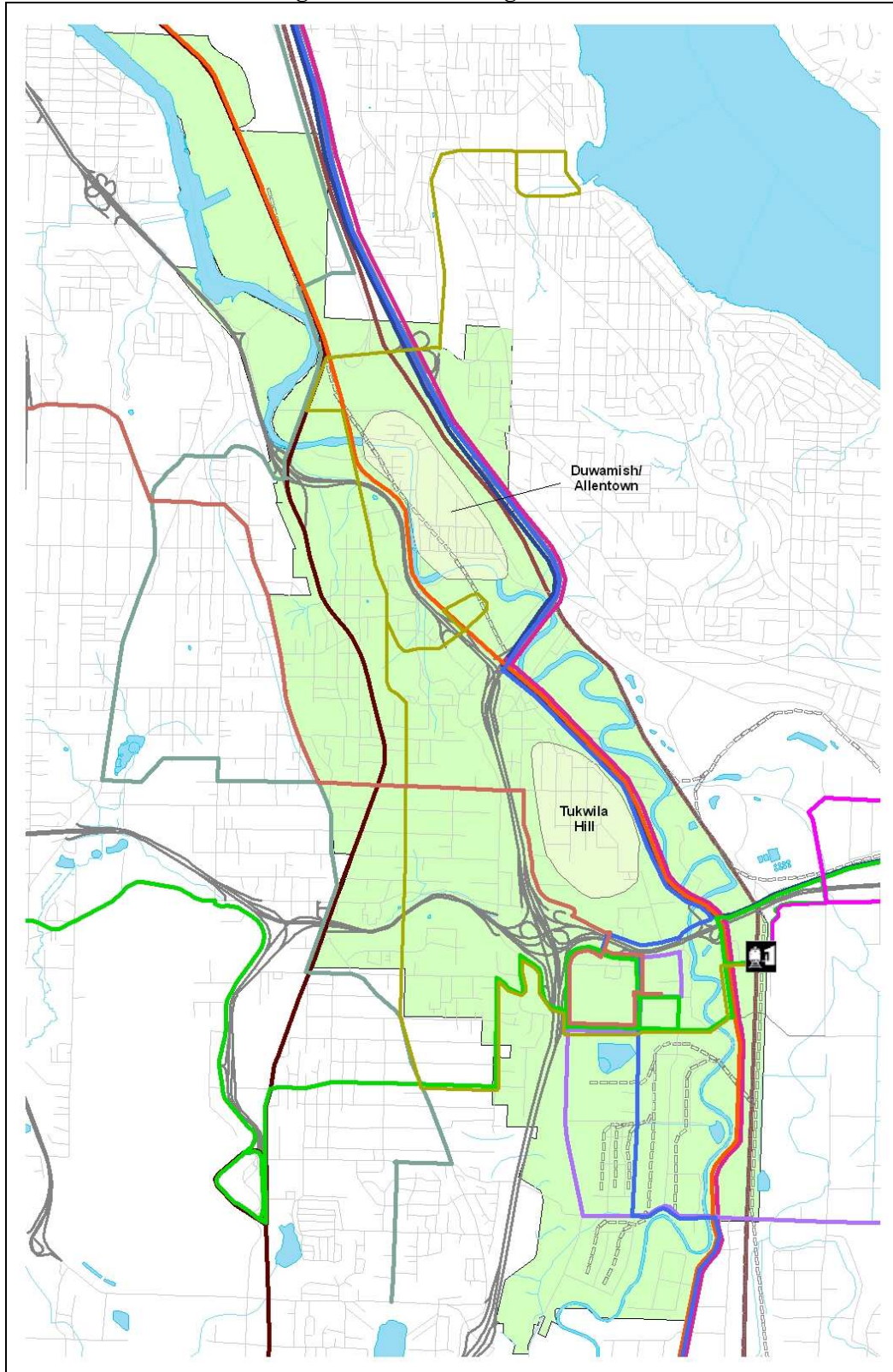


Figure 3-2
Neighborhoods Lacking Bus Service



Interconnectivity to Tukwila Destinations

When examined at a route level, interconnectivity between major Tukwila destinations is not well coordinated. The following examples illustrate the lack of a coordinated intra-Tukwila route network.

Tukwila Station

Tukwila Station is served by both Sounder and AMTRAK services. Connecting bus service to Tukwila Station is provided during peak hours only by three routes. Currently, there is no midday service to Tukwila Station even though AMTRAK trains stop there during those times.

During peak hours, there is no direct service from Tukwila Station to the employment areas in North Tukwila. Route 126 provides service between Tukwila Station and the large employment areas along E. Marginal Way; however, the route is so indirect that few Sounder patrons are likely to utilize the route to get between Tukwila Station and North Tukwila.

Tukwila Urban Center/Southcenter

The Tukwila Urban Center/Southcenter area is one of the commercial powerhouses in King County. Its entertainment and retail activity is expanding further to the south along Southcenter Parkway. Despite the large amount of retail activity, bus service tends to focus on the traditional commuting times, which is more suited for office workers than those working in the service/retail sector. Frequent evening service is restricted to Andover Park West and the area immediately surrounding Southcenter Mall. With such limited access, the TUC is not effectively served by transit from most areas of the City.

Weekend service is concentrated along Andover Park West and the area immediately surrounding the Southcenter Mall. Service exists on Strander Boulevard, but the span and frequency are such that few choice riders would choose the service.

The TUC is one of the highest ridership areas in South King County for existing transit services. The ridership in the TUC is all-day, not necessarily focused on peaks, as the retail and service activities are all-day destinations. In order to tap into focused land use areas that will generate ridership throughout the day, and not just during peaks like park-and-ride lots, High Capacity Transit along the I-405 corridor should serve the TUC.

Service exists on Southcenter Parkway, but its span (no evening or Sunday service) and frequency (hourly) are such that few choice riders would use the service.

The TUC has direct service to all major South King County destinations except for Federal Way. According to the King County *2001 Metro Rider/Nonrider Survey*, Federal Way is identified as being the destination for 7 percent of all commuters heading to South King County; no service between Tukwila and Federal Way is a gap.

S. 154th Street LINK Station Site

The S. 154th Street LINK Station site is one of the future transit hubs within the city. The existing bus route structure does not effectively provide service to this site, although it should be noted that the route structure will likely change to address some of the connectivity issues. For example, there is no direct bus connection between the TUC and the S. 154th Street LINK Station. There is also no connection to the Burien Urban Center.

Also, adjacent Tukwila neighborhoods are not provided with feeder service to the LINK Station, forcing potential patrons to use scarce park-and-ride stalls.

Service to Tukwila Destinations

Tukwila has a unique geographic configuration and zoning. The northern part of the city is characterized by industrial areas. The major commercial center surrounding the Southcenter Mall is separated from all residential development by either I-5, I-405, or the BNSF railroad. Residential development occurs predominantly in the areas west of I-5 and on Tukwila Hill, which is bounded by I-405, I-5, and Interurban Boulevard.

Transit service to major destinations such as medical facilities, human service agencies, schools, and major employers are discussed below.

Medical Facilities

Tukwila has only one major medical facility within city limits, Highline Community Hospital (**Figure 3-3**). It should be noted that Group Health, a major employer, has administrative offices in Tukwila, not a healthcare facility. Highline Community Hospital is located on the western edge of the City, and there are several ancillary medical businesses surrounding it. Route 128 provides all-day weekday, Saturday, and Sunday service to Highline Community Hospital.

Community Agencies

Several community resources are located throughout Tukwila (**Figure 3-4**). Several serve markets greater than just Tukwila. For instance, the King County Housing Authority has one of its offices just north of I-5 on 65th Avenue S. For the most part, community agencies are well served by frequent service. There are several exceptions, however. Neither the Tukwila Library nor the Tukwila Community Center are currently served by transit.

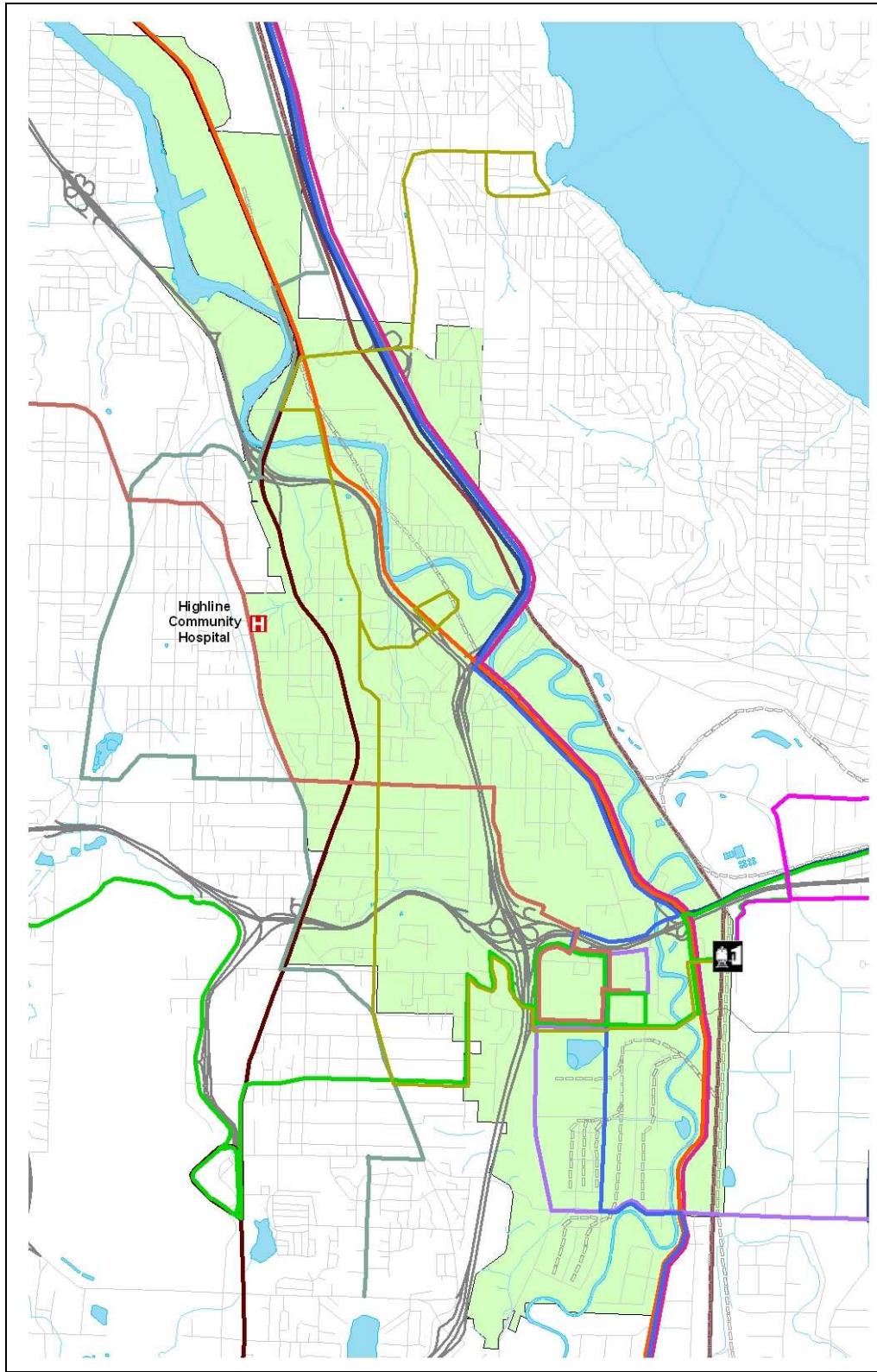
Schools

Tukwila has three elementary schools, one middle school and one high school (**Figure 3-5**). In general, elementary schools are not considered a good transit market. Middle and high schools, however, traditionally have been very good transit markets. Foster High School and Showalter Middle School are both served by Route 128, which operates at 30-minute frequencies throughout the day. Route 128, while serving the schools directly, only serves a limited number of residences in Tukwila. Students, particularly those in East Tukwila on Tukwila Hill, have long walks in order to access Route 128.

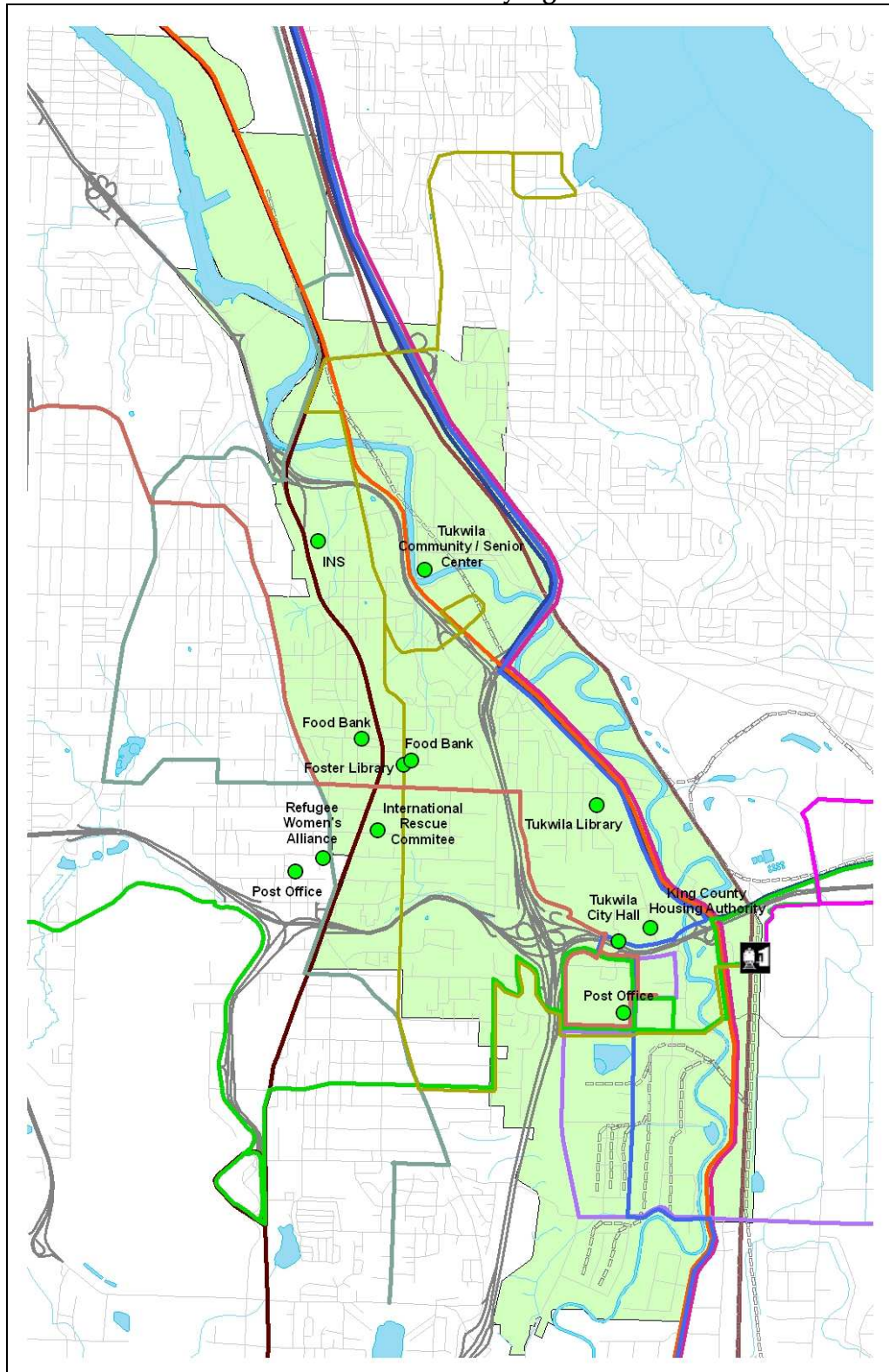
Major Employers

There are 22 major employers (100 plus employees) in Tukwila. In addition, the Tukwila Urban Center has several buildings and developments that house more than 100 employees in separate companies. **Figure 3-6** shows the location of major employers in Tukwila. Virtually all major employers are adjacent to an existing bus route. However, some of these routes do not operate throughout the day, and therefore provide only limited mobility to employers. In particular, Group Health on E. Marginal Way and the Boeing Employee Credit Union (Gateway Center) are underserved considering the number of employees. It should be noted that King County Metro has marked buses heading from downtown Seattle to South Base as serving Group Health. During non-peak hours, Gateway Center employees must walk $\frac{3}{4}$ of a mile in a pedestrian hostile environment to the Interurban Park-and-Ride, which is served by all-day service.

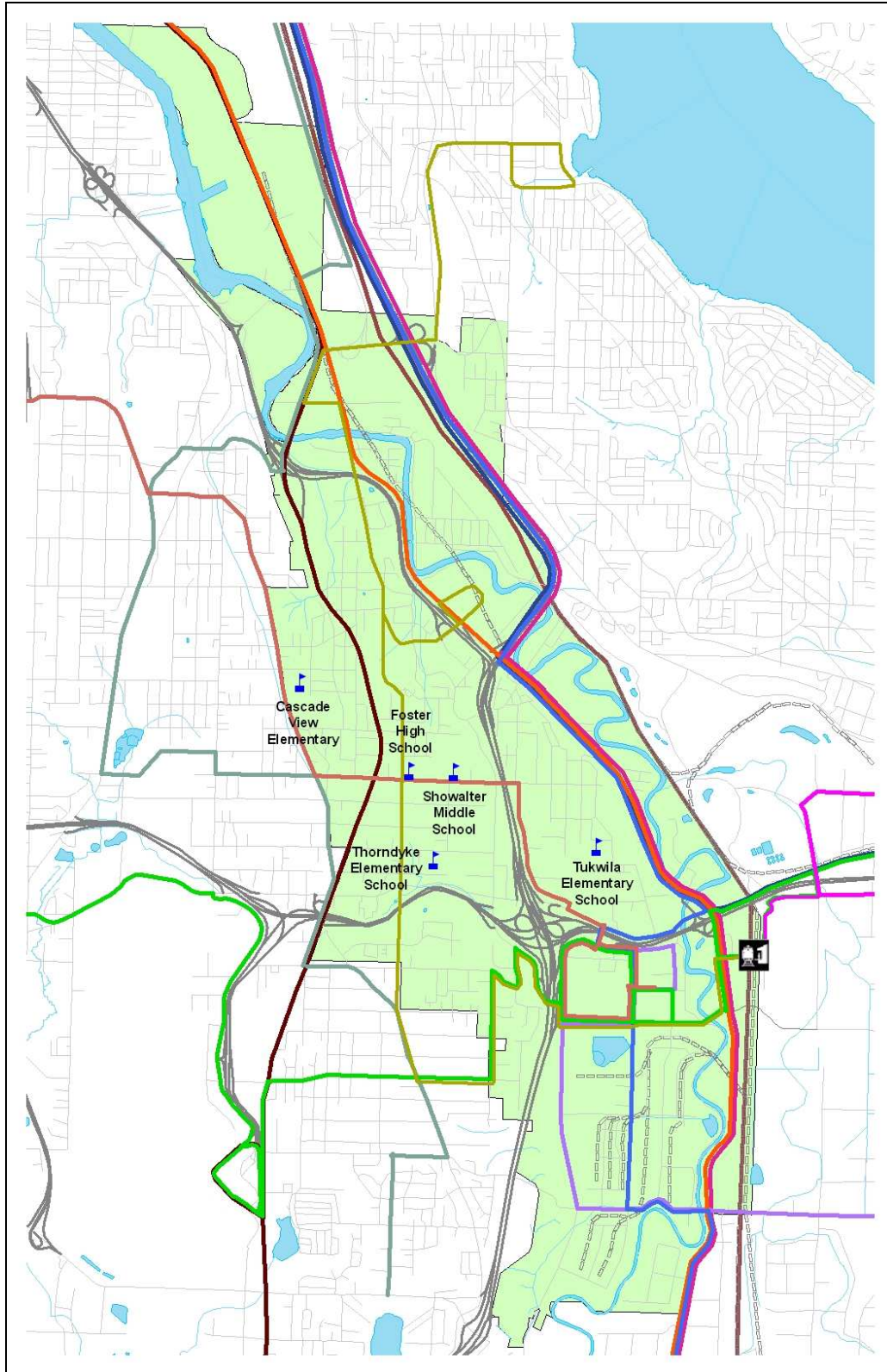
**Figure 3-3
Tukwila Medical Facilities**



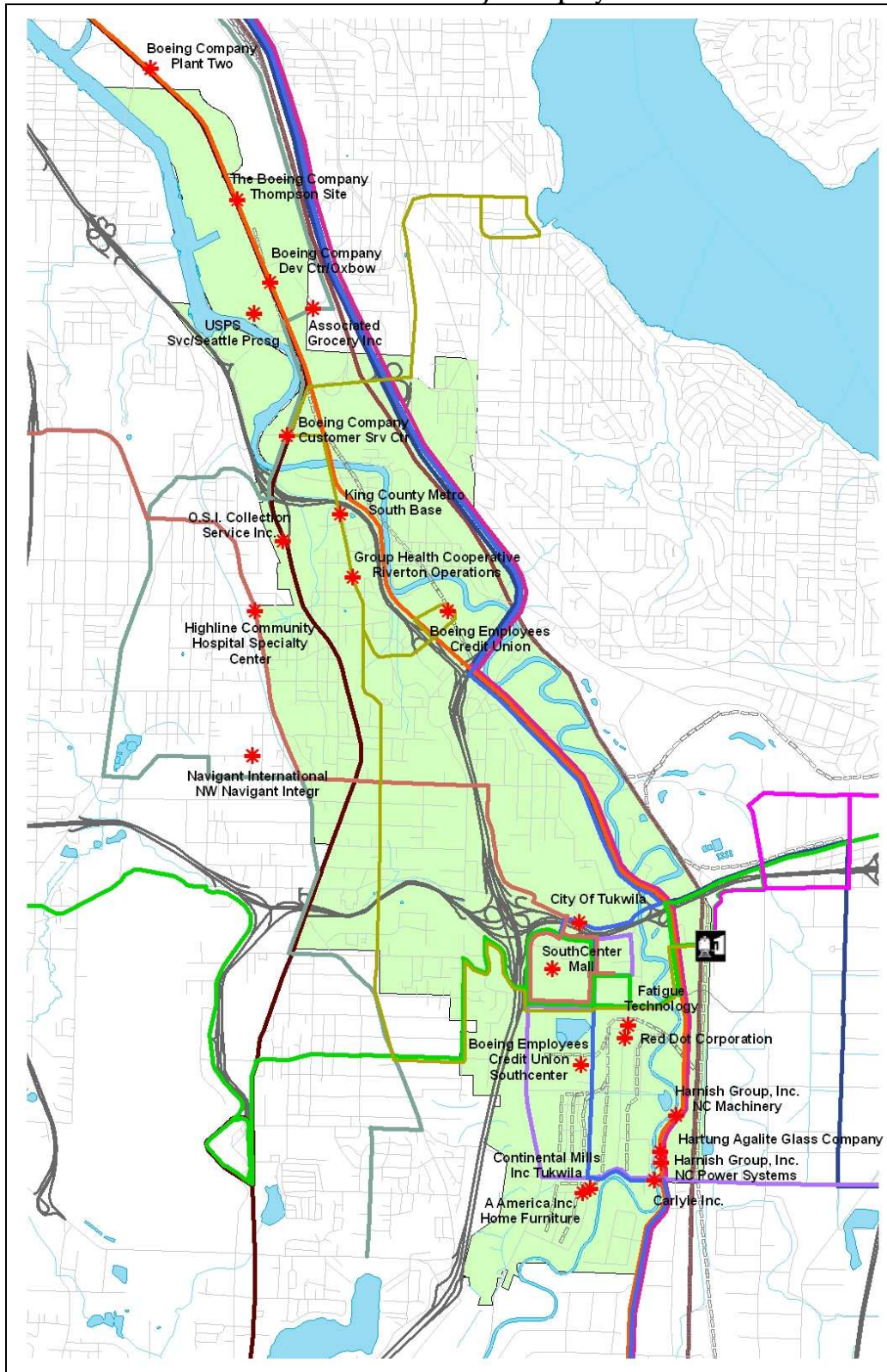
**Figure 3-4
Tukwila Community Agencies**



**Figure 3-5
Tukwila Schools**



**Figure 3-6
Tukwila Major Employers**



3.2.2 Existing Tukwila Ridership Patterns²

The Fall 2002 count of transit riders within Tukwila shows an average daily ridership of approximately 9,100 boardings and alightings. The most activity (boardings/alightings) occurs at Southcenter Mall, where 2,200 daily weekday riders use the transit stop at the intersection of Andover Park West and Baker Boulevard. The Interurban Park-and-Ride has an average of 1,850 daily boarding and alighting passengers. Other high ridership stops are located at the intersection of Andover Park West and Strander Boulevard, which has 525 daily riders and at International Boulevard and S. 144th Street. **Figure 3-7** shows the highest ridership stops throughout Tukwila.

A large proportion of ridership activity takes place within the Tukwila Urban Center. **Figure 3-8** shows actual bus stop level ridership within the Urban Center. The focus of service is reflected in the ridership patterns. Southcenter Parkway ridership is virtually insignificant.

Bus routes traversing the TUC carry significant passenger loads. **Figure 3-9** shows the passenger loads on routes heading through the TUC. The heaviest ridership corridors correspond to the alignment of Route 150 and Route 140. The passenger load data confirms that transit passengers are attracted to the TUC from all directions, i.e., loads are consistent, and ridership activity at individual stops is high.

As shown in **Figure 3-10**, Routes 128, 140, 150, and 174 are some of the routes with the highest ridership activity within the City of Tukwila. It should be noted that only Route 150 serves a park-and-ride within Tukwila; this high level of ridership is accessing bus service by walking to bus stops, not driving.

Figure 3-11 shows the total ridership levels by day for bus routes traveling through Tukwila. Ridership is highest on weekdays, and progressively less for Saturdays and Sundays. One interesting element from **Figure 3-11** is that Saturday ridership on Route 140 is only 45 percent less than weekday ridership even though there is approximately two thirds less service; there is latent demand for Saturday service that is unmet on Route 140.

One of the methods to measure the productivity and efficiency of bus routes is to calculate the number of passengers that are carried by platform hour³. **Figure 3-12** details the productivity of each route that operates through Tukwila. Route 174 is the most productive route in Tukwila. For these routes serving the TUC, Routes 128, 140, and 150 are the most productive: Route 150 is the most productive weekday and Sunday route and Route 140 is most productive Saturday route.

² Ridership numbers in this section are based on King County Metro Fall 2002 data. They also include two routes that no longer serve Tukwila. In September 2004, as part of a South King County service change, the resources for Routes 39 and 124 were reallocated to create Route 126. Due to the recent nature of this change, no ridership information is available for the new Route 126.

³ A platform hour is defined as an hour of bus service; it includes time spent in revenue service carrying passengers, time spent traveling to/from the bus base, and recovery time at the end of routes.

Figure 3-7
Tukwila Weekday Daily Ridership Map

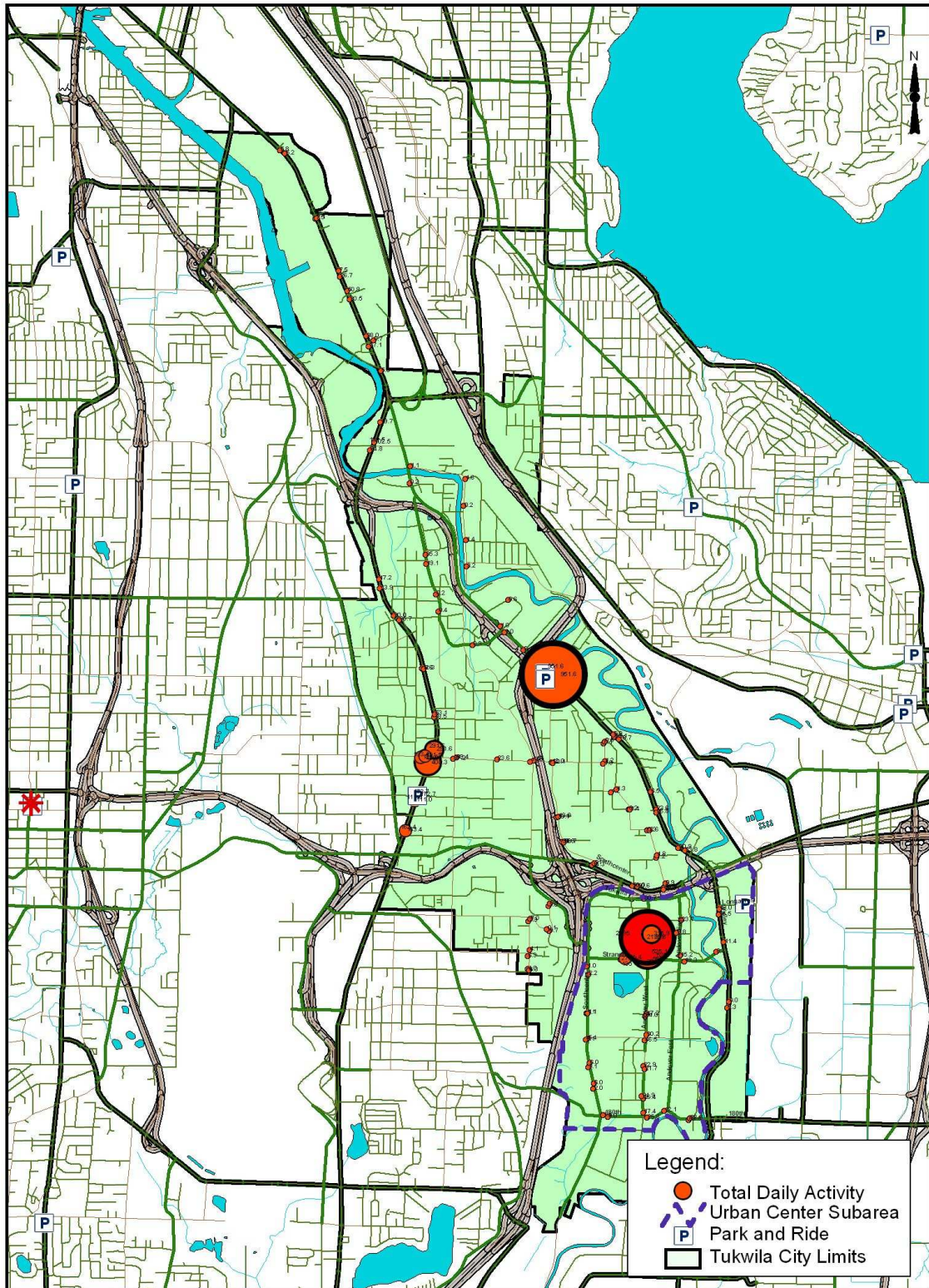


Figure 3-8
TUC Weekday Daily Ridership Map

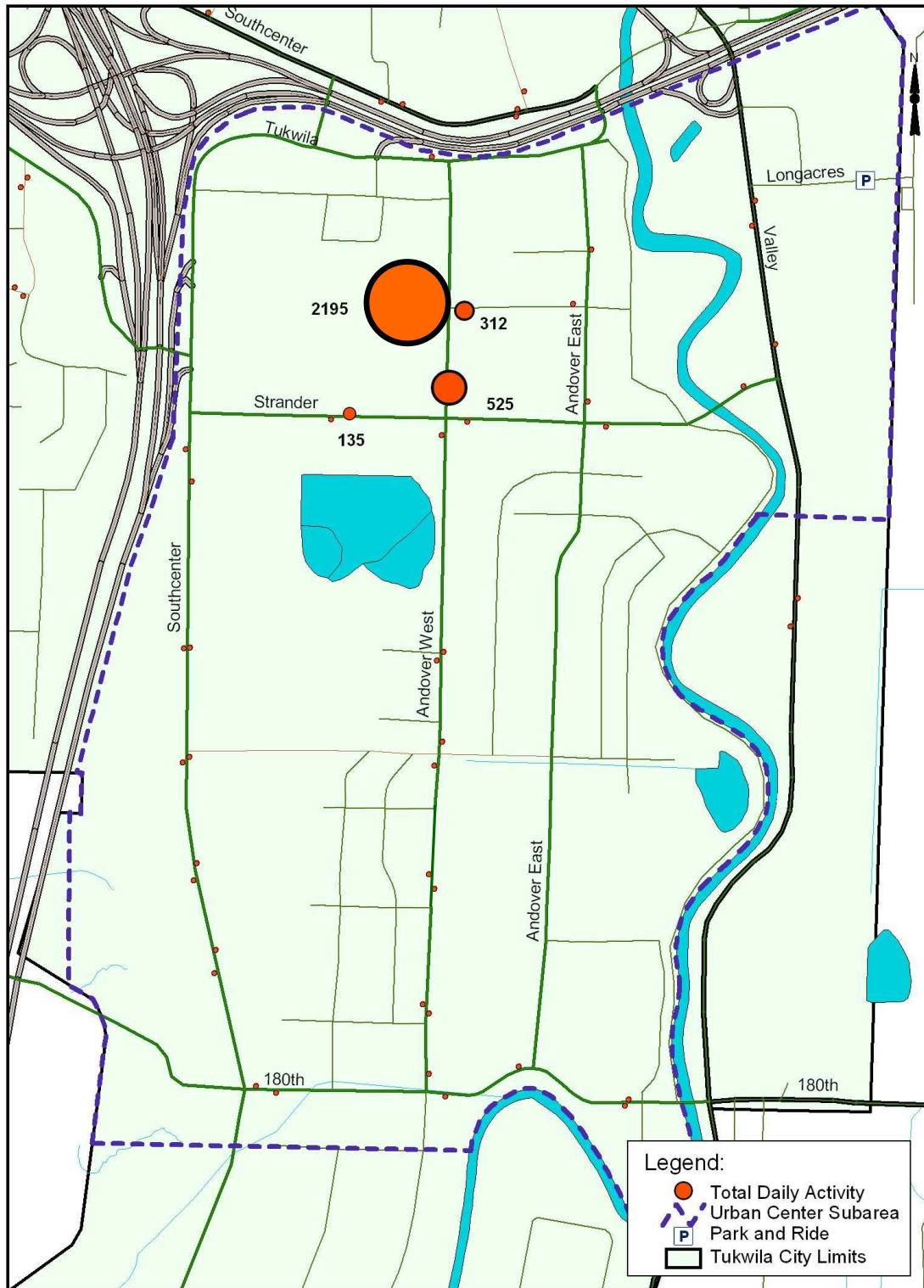


Figure 3-9
Weekday Daily Passenger Loads on TUC Streets

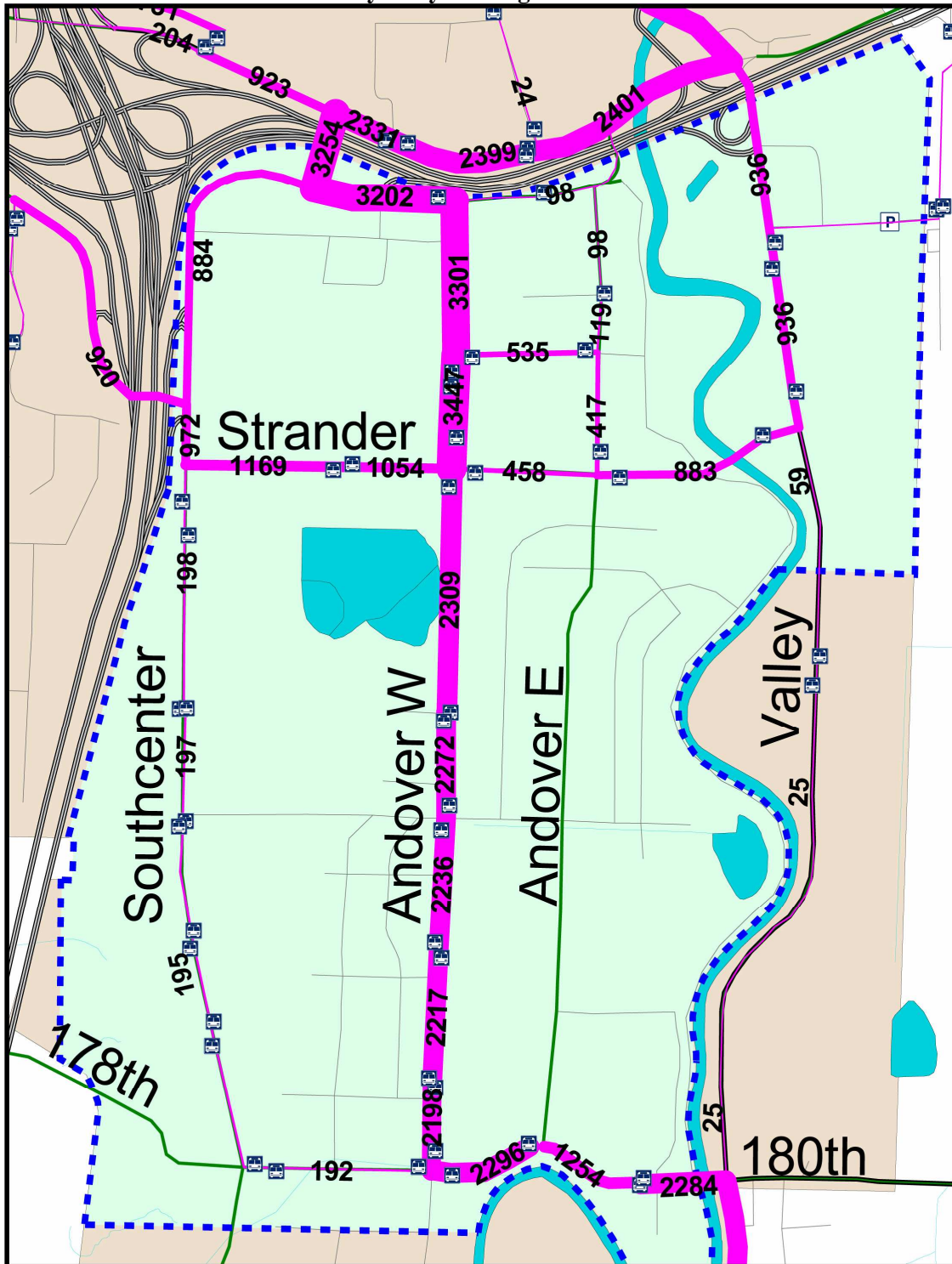


Figure 3-10
Weekday Boarding Activity within the City of Tukwila

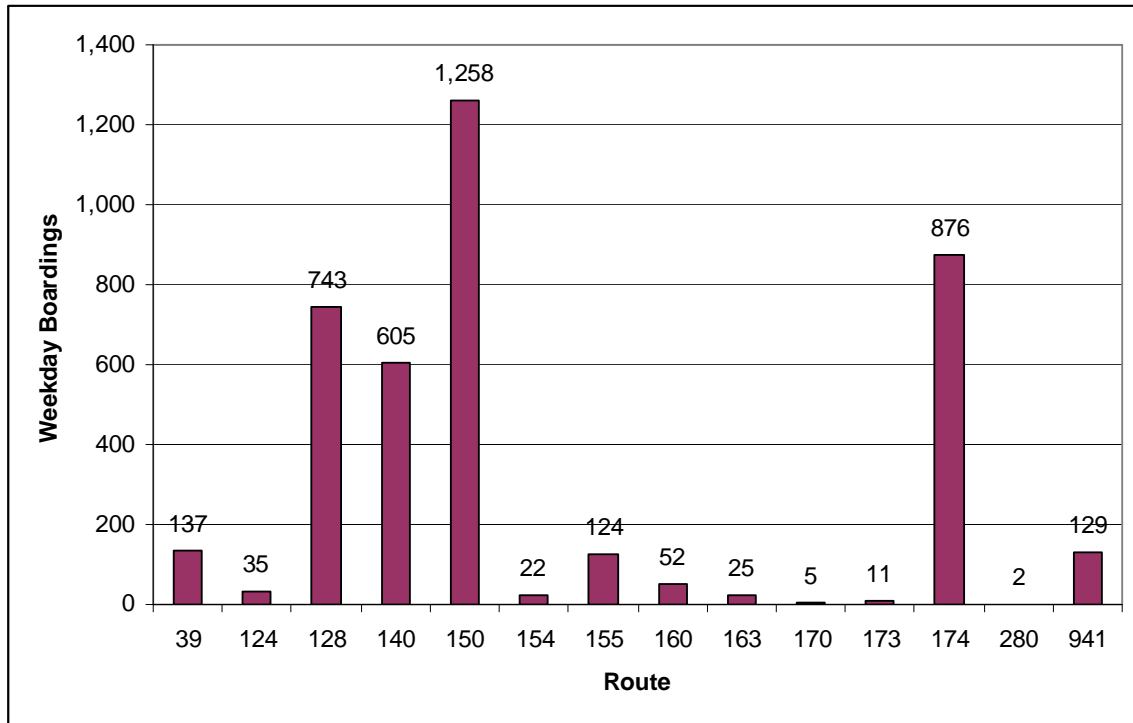


Figure 3-11
Route Level Ridership by Day of Week for Routes Serving Tukwila

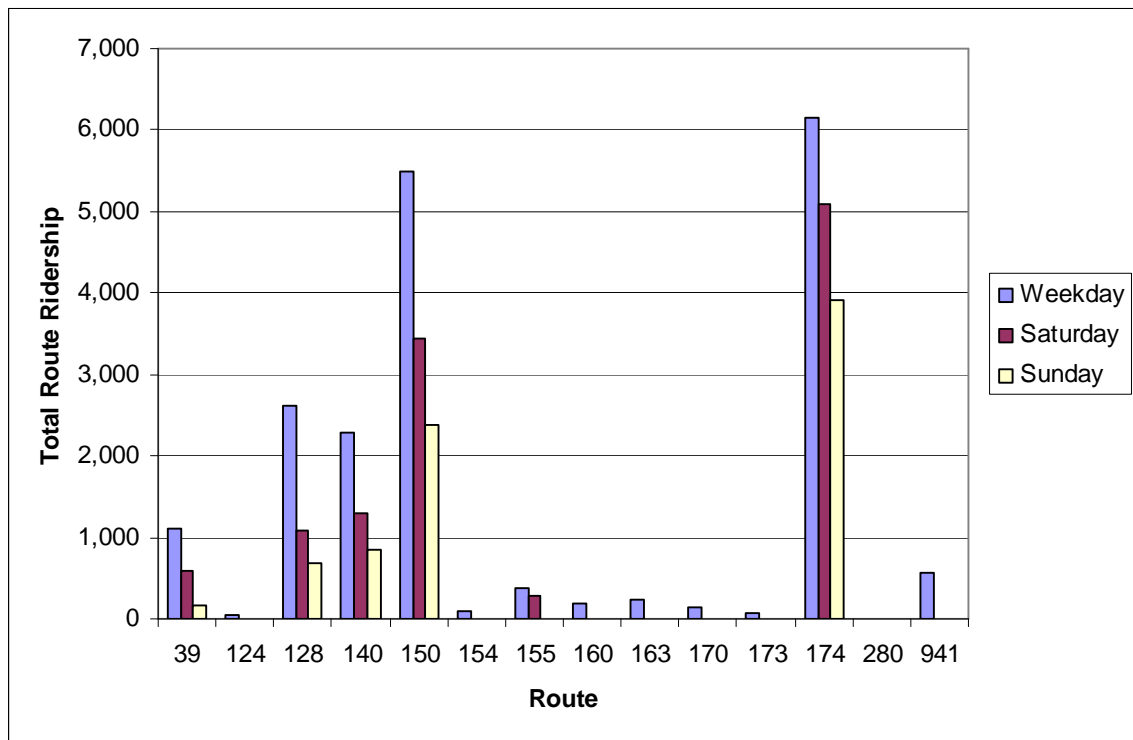
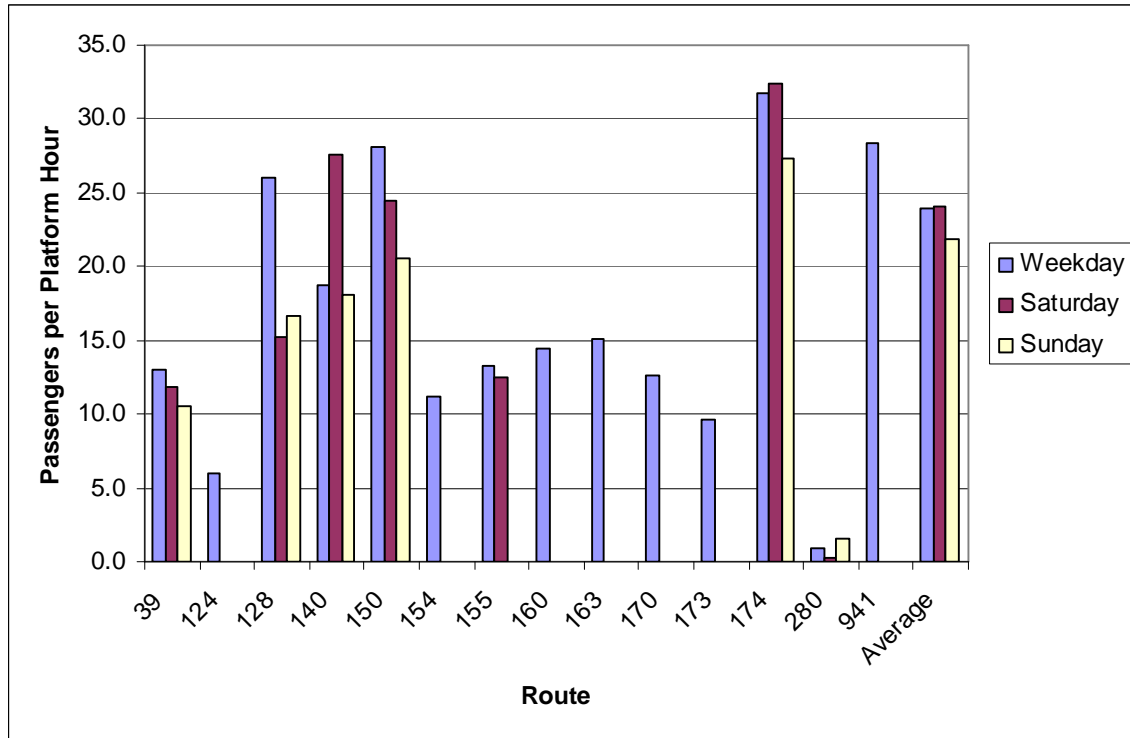


Figure 3-12
Route Level Productivity by Day of Week for Tukwila Routes



3.3 KEY SERVICE FINDINGS

Several service themes become apparent when examining each route on a system level and at an individual level. The key findings are described below.

- *Weekend Service is Inadequate in the TUC*

Weekend car traffic to the TUC is as high, and in some cases/locations is higher than weekday traffic. However, several bus routes serving the TUC do not operate during weekends (e.g., Route 155 does not operate on Sundays), or they operate much less frequently (e.g., Route 140 only operates hourly on weekends). The Saturday ridership levels on Route 140, in particular, clearly show demand for more service. Significant markets are being ignored as a result of not having sufficient weekend service.

- *Span of Service in the TUC is Inadequate*

The span of service along International Boulevard is excellent. However, the retail and entertainment opportunities in the TUC are not well served late at night by transit service. Most routes operate infrequently, if at all during evenings and Sundays.

- *Transit Connections to Tukwila Station are Poor*

Routes serving Tukwila Station operate only during the peaks. There is no connecting service for midday AMTRAK service. In addition, the peak-only orientation and poor signage results in confusion whether there actually is connecting bus service. There is no direct connecting service to the North Tukwila employment areas.

- *Trips Within the TUC are not Well Served by Transit*

Based on ridership data and the on-board surveys, it appears that few people are using transit to travel within the TUC. Low frequency, a lack of identity and fear of getting on the wrong bus are probable roots of this behavior. An examination of car traffic patterns within the TUC, however, reveals that many cars are making trips internal to the TUC, as people travel from one business to the next. These trips are rarely made on transit.

- *Bus Connections to S. 154th Street LINK Station are Limited*

According to Sound Transit, the Tukwila LINK light rail station at 154th Street will open in 2009. There is currently no bus route that directly connects the proposed LINK station to the TUC or to Burien. Neighborhood feeder service has not been planned, either. Direct connecting service is crucial to make LINK an integral part of providing access to the TUC. Neighborhood feeder routes are necessary to reduce demand for scarce parking stalls at the S. 154th Street Station.

- *I-405 Bus Rapid Transit Stop in TUC is Necessary*

The I-405 Plan recommended that all-day, high-speed Bus Rapid Transit (BRT), with buses coming every 10 minutes, be provided in the I-405 corridor. The current planning efforts show an option for service to Tukwila Station and the TUC. Initial ridership projections for the I-405 BRT are approximately 4,500 daily passengers by 2014. Given that there are close to 2,000 daily boardings at the stops immediately surrounding the Southcenter Mall today, it is apparent that a major, existing all-day transit destination was being bypassed by the proposed I-405 BRT. Currently, the ridership potential for I-405 BRT service to the TUC is being examined as a part of the I-405 Bus Rapid Transit Study.

- *No Direct Connections from the TUC to Federal Way*

The TUC has direct bus service from Renton, Kent, Auburn, Seattle, SeaTac, and Burien, all of which have large concentrations of transit service. The one major South King County location that does not have direct service to the TUC is Federal Way, even though large amounts of service between Seattle and Federal Way pass by the TUC on I-5, and Federal Way and Tukwila are both major South King County destinations. The new Federal Way Transit Center and the revitalized Federal Way downtown area are both catalysts for potential new service connecting Tukwila and Federal Way.

3.4 ROUTE ANALYSIS

King County Metro operates thirteen different bus routes and Sound Transit operates one commuter rail line within the TUC. In addition, a private provider, Seattle Southside Express, runs regularly scheduled service between Tukwila hotels, Southcenter Mall, and downtown Seattle. Hotel shuttles offer non-scheduled service between hotels and Sea-Tac Airport, but due to the proprietary nature of this service, it is not summarized in this section. Each route has unique operating characteristics, strengths and weaknesses. The operating characteristics of each route operating within Tukwila were examined. Each route includes a description and a problem statement which outlines any issues with the route.

Route 39 Tukwila – Rainier – Seward Park – Downtown Seattle

Route Description

Route 39 connects downtown Seattle with Beacon Hill, Rainier, Seward Park, Rainier Beach, and the Southcenter Mall. The only stop within Tukwila was at the Southcenter Mall. Despite only having one stop, it was the sixth highest ridership route in Tukwila.

In September 2004, as a part of a South King County service change, the resources used by Route 39 to serve Tukwila were reallocated to create Route 126, which is also discussed in this section. Route 39 continues to operate in Seattle, but no longer serves Tukwila.

Problem Statement

The productivity of the segment to Tukwila was low. Thirty-eight trips traveled to Southcenter, and carried 243 passengers, for an average of 6.4 passengers per trip. Likewise, because the route operates on the freeway, it did not have opportunities to increase access by increasing the number of stops. The majority of ridership to Tukwila accessed the route in Rainier Beach.

Route 39 did not extend to the Southcenter Mall during the a.m. peak or evenings. This severely limited its potential to serve non-retail oriented job sites within Tukwila. Service ending prior to 7:00 p.m. also limits the amount of retail employment that can be attracted to this route.

Route Statistics

Riders

2003 Daily	1,117
2003 per Plat. Hour ⁴	13.0
2003 per Trip	16.4

Service Headway (Minutes)

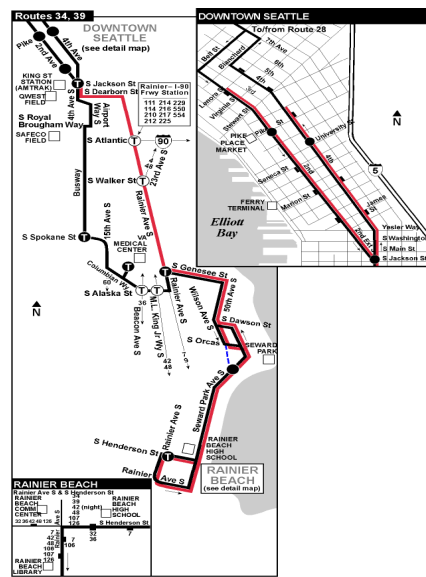
Weekday Peak	30 – pm only
Weekday Base	30
Evening	N/A
Saturday	30
Sunday	60

Service Span (to Tukwila)

Weekday	9:30A to 6:00P
Saturday	10:30A to 6:00P
Sunday	11:00A to 6:00P

Weekday Service Provided

2003 Plat. Hours	85.7
2003 Trips	68



⁴ A platform hour is defined as an hour of bus service; it includes time spent in revenue service carrying passengers, time spent traveling to/from the bus base, and recovery time at the end of routes.

Route 124
Southcenter – North Tukwila – Gateway – E. Marginal Way

<u>Route Description</u>	<u>Route Statistics</u>
Route 124 connected the Southcenter Mall with City Hall, the Gateway office complex, several Tukwila neighborhoods, and the E. Marginal Way employment areas. This was the only route that was wholly within the City of Tukwila. It operated only during peaks and consisted of a huge loop on its northern end. It was one of the weakest routes in Tukwila, with only 41 boardings.	<i>Riders</i> 2003 Daily 41 2003 per Plat. Hour 6.0 2003 per Trip 5.1 <i>Service Headway (Minutes)</i> Weekday Peak 60 Weekday Base N/A Evening N/A Saturday N/A Sunday N/A <i>Service Span</i> Weekday 6:30A to 9:00A 3:30P – 6:45P Saturday N/A Sunday N/A <i>Weekday Service Provided</i> 2003 Plat. Hours 6.8 2003 Trips 7
In September 2004, as a part of a South King County service change, the resources used by Route 124 were reallocated to create Route 126, which is also discussed in this section; Route 124 has been deleted – it no longer serves Tukwila.	
<u>Problem Statement</u> Route 124's productivity was low. It was one of the worst performing routes in Tukwila. The route operated on several neighborhood streets that have little ridership, yet slowed the route down. The majority of ridership on the route was oriented toward the Southcenter Mall. Route 124 was the only route to provide direct service to the office complex on Gateway Drive. Route 124 had several severe deficiencies. First, the terminal loop at the end of the route provided coverage, yet anyone along the route had to endure out-of-direction travel. The routing on Tukwila Hill between Southcenter and the Interurban Park-and-Ride traveled through a low-medium density neighborhood. Ridership was poor and the routing was time-consuming. Finally, the peak-only and hourly nature of the route combined to prevent all but captive riders from using this route.	

No Route Map is available for this route

Route 126

Tukwila Station – Southcenter – Gateway – E. Marginal Way – Rainier Beach

Route Description

Route 126 is a new route that began service in September 2004. It replaces service and connections formerly provided by Routes 39 and 124.

The route connects Tukwila Station with Southcenter Mall and the residential areas in West Tukwila, as well as providing service to employment centers along E. Marginal Way and the Gateway Center. Route 126 also connects the Tukwila employment centers with the population centers around Rainier Beach. Route 126 operates during peak hours only.

Problem Statement

Route 126 is a new route, so no ridership or productivity data are available.

Route 126 schedules are designed to provide feeder service for Sounder patrons from South King County wishing to access Tukwila job centers.

Route 126 does not provide service to the proposed urban center along International Boulevard or the future S. 154th LINK Station. In one year, after ridership data are available, the impacts of bypassing these ridership generators will be known.

Route Statistics

Riders

2004 Daily	No Data
2003 per Plat. Hour	No Data
2003 per Trip	No Data

Service Headway (Minutes)

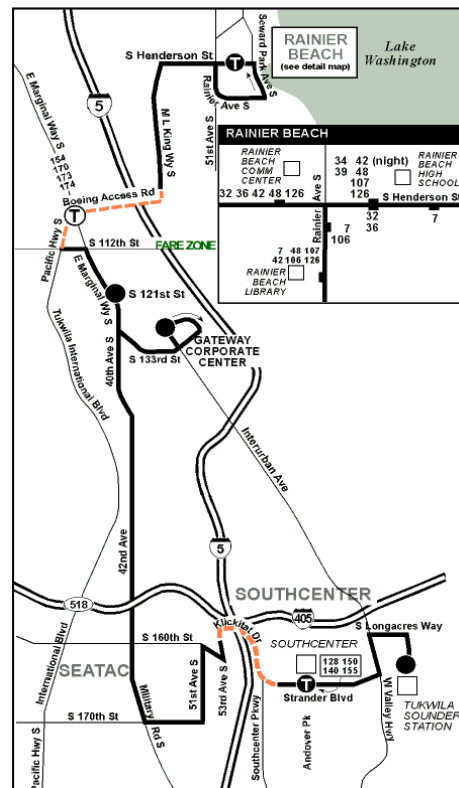
Weekday Peak	30
Weekday Base	N/A
Evening	N/A
Saturday	N/A
Sunday	N/A

Service Span

Weekday	6:00A to 8:50A 3:40P to 6:45P
Saturday	N/A
Sunday	N/A

Weekday Service Provided

2004 Plat. Hours	22.3
2004 Trips	22



Route 128 Southcenter – White Center – West Seattle

Route Description

Route 128 connects the Southcenter Mall with West Seattle. Within Tukwila, it provides service to Highline Community Hospital, International Boulevard, Foster High School, and the neighborhoods adjacent to Macadam Road. It operates throughout the day and on Saturday and Sunday as well. It has the fourth highest ridership activity of all routes in Tukwila

Problem Statement

Route 128 has high productivity and the ridership has been growing. The route's ridership is encouraging especially considering that it does not serve downtown Seattle. The route traverses several areas that have excellent transit demographics. The highest ridership stops are at the Southcenter Mall, S. 144th Street/Tukwila International Boulevard, White Center transfer point, South Seattle Community College, and along California Avenue SW in West Seattle. This is a good route.

Route 128 ends at the Southcenter Mall and does not connect to the Tukwila Sounder Station. This is a lost opportunity to provide service from the Kent Valley via Sounder to the Highline Community Hospital and to West Seattle.

In addition, Route 128 has large amounts of layover scheduled for weekdays and Sundays. On weekdays, 30 percent of route resources are spent in non-revenue service. Likewise, on Sundays 44 percent of route resources are spent in non-revenue service. This compares poorly with the national industry standard of 15 percent or less.

Route Statistics

Riders

2003 Daily	2,611
2003 per Plat. Hour	26.1
2003 per Trip	39.0

Service Headway (Minutes)

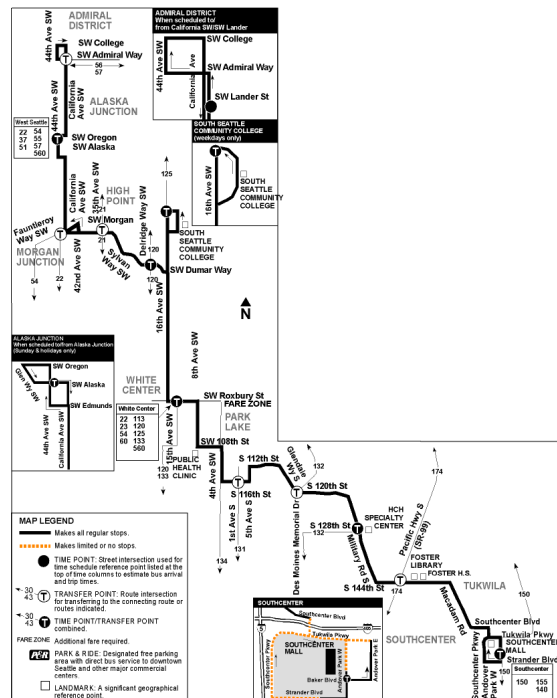
Weekday Peak	30
Weekday Base	30
Evening	30
Saturday	30
Sunday	60

Service Span

Weekday	5:00A to 10:00P
Saturday	6:00A to 10:00P
Sunday	6:10A to 8:20P

Weekday Service Provided

2003 Plat. Hours	100.2
2003 Weekday Trips	67



Route 140 Renton – Tukwila– SeaTac– Burien

Route Description

Route 140 provides all-day service connecting Renton, Tukwila, Southcenter, Sea-Tac Airport, and Burien. Within Tukwila, Route 140 serves the Sounder Station, Southcenter Mall, and McMicken Heights. It operates throughout the day and on Saturday and Sunday as well. It has the fifth highest ridership activity of all routes in Tukwila

Problem Statement

Route 140 has high productivity. The highest ridership stops are at the Renton Transit Center, South Renton Park-and-Ride, Southcenter Mall, Sea-Tac Airport, and the Burien Transit Center. This is one of the few east-west routes that connects with several higher frequency north-west routes.

Route 140 does not serve Sounder Station on all trips. This leads to the perception that King County Metro does not serve the commuter rail station.

Route 140 travels through several high-congestion areas, including the airport, Strander Boulevard, and the area around West Valley Highway/Grady Way, all of which impact on-time performance.

Despite traveling through congested areas, Route 140 has large amounts of layover, particularly during the midday and evening. During both the a.m. and p.m. peak, Route 140 has approximately 20 minutes of layover at each end. During the midday and evening, the average layover at each route end is approximately 35 minutes. It is highly unusual and unlikely that on-time performance issues demand longer layover times during the midday than during the peak; the midday layover times are high. In addition, on Saturdays and Sundays between 10 a.m. and 6 p.m., Route 140 spends more than half of its resources in layover. In other words, drivers drive the route one-way for 55 minutes and then sit for 60 minutes prior to their next trip.

King County Metro should examine its layover requirements to determine if changes in operating practices can fund 30-minute Saturday service between 10 a.m. and 6 p.m. on Route 140. It appears that this is possible.

Route Statistics

Riders

2003 Daily	2,437
2003 per Plat. Hour	19.9
2003 per Trip	28.0

Service Headway (Minutes)

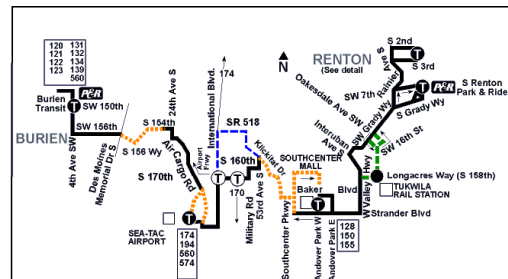
Weekday Peak	15
Weekday Base	30
Evening	60
Saturday	60
Sunday	60

Service Span

Weekday	5:30A to 10:00P
Saturday	8:00A to 10:00P
Sunday	8:00A to 10:00P

Weekday Service Provided

2003 Plat. Hours	122.5
2003 Weekday Trips	87



Route 150 Seattle – Tukwila – Southcenter – Kent – Auburn

Route Description

Route 150 provides all-day service connecting downtown Seattle, Tukwila, Kent, and Auburn. Within Tukwila, Route 150 serves the Interurban Park-and-Ride, City Hall, and the Southcenter Mall. It operates throughout the day and on Saturday and Sunday as well. It has the highest ridership activity of all routes in Tukwila, with almost double the boardings of any other route within Tukwila.

Problem Statement

Route 150 has excellent productivity, and within Tukwila, an almost even distribution of passengers heading north- and southbound. The highest ridership stops are in downtown Seattle, the Interurban Park-and-Ride, Southcenter Mall, Kent Transit Center, and Auburn Sounder Station. Route 150 is an excellent route.

According to King County Metro, Route 150 has severe on-time performance issues which are partly caused by traveling on congested streets and by indirect routing.

Route Statistics

Riders

2003 Daily	5,493
2003 per Plat. Hour	28.1
2003 per Trip	51.3

Service Headway (Minutes)

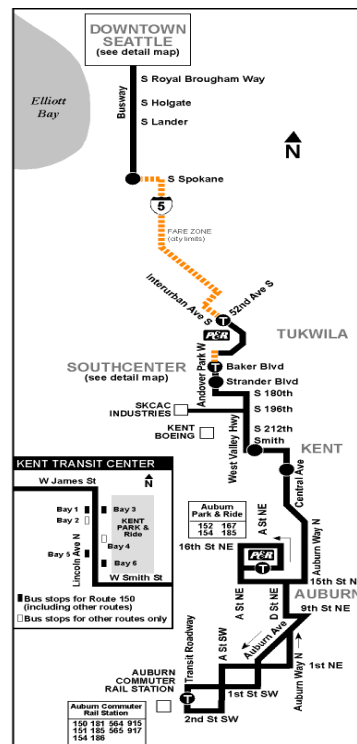
Weekday Peak	15
Weekday Base	30
Evening	30
Saturday	30
Sunday	30

Service Span

Weekday	5:00A to 2:26A
Saturday	5:45A to 2:26A
Sunday	6:45A to 2:26A

Weekday Service Provided

2003 Plat. Hours	195.3
2003 Weekday Trips	107



Route 155 Southcenter – 180th – Petrovitsky – Fairwood

Route Description

Route 155 provides all-day weekday and Saturday service between the East Kent area and the commercial and employment areas in Tukwila. It is the only route that operates on Southcenter Parkway within Tukwila. Service is hourly throughout weekdays and Saturdays. This is the sixth highest ridership route within Tukwila.

Problem Statement

Route 155 productivity is below average. The ridership is oriented to Southcenter. Ridership along Southcenter Parkway is relatively low. The highest ridership stops are at the Southcenter Mall and Valley Medical Center.

Route 155 frequencies are inadequate to provide more than basic coverage along the route. Choice riders tend not to use routes that operate at 60-minute frequencies. Route 155 also has a large terminal loop combined with a long layover in the middle, which is detrimental to ridership development. On-time performance has been problematic for Route 155 due to heavy and unpredictable congestion.

Route 155 does not connect with Tukwila Station, so it is unable to act as a potential Sounder Feeder Route from the Kent East hill.

Route Statistics

Riders

2003 Daily	388
2003 per Plat. Hour	13.7
2003 per Trip	14.4

Service Headway (Minutes)

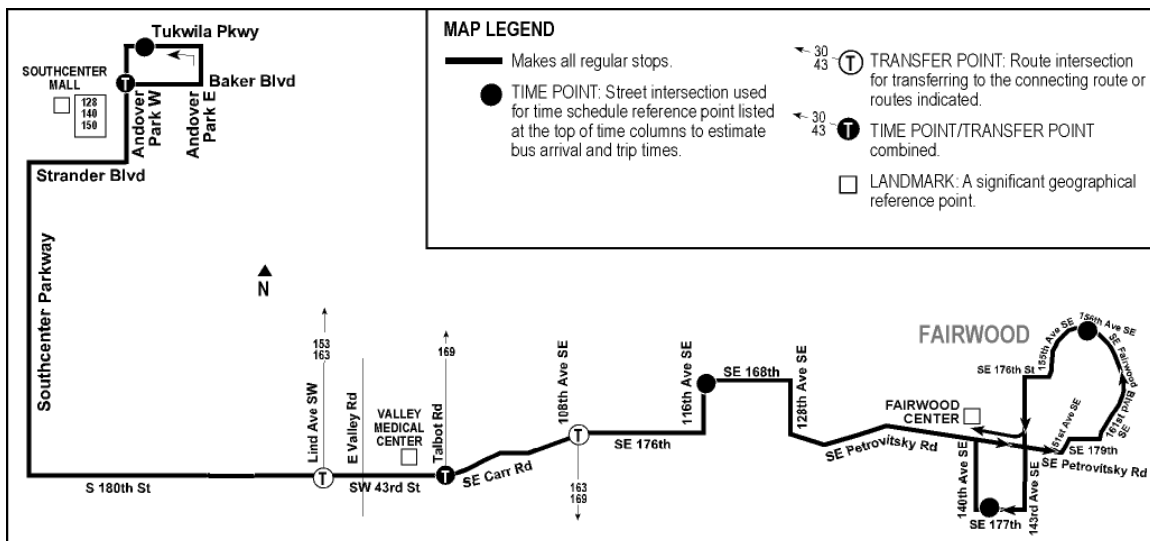
Weekday Peak	60
Weekday Base	60
Evening	N/A
Saturday	60
Sunday	N/A

Service Span

Weekday	5:10A to 7:00P
Saturday	8:10A to 7:00P
Sunday	N/A

Weekday Service Provided

2003 Plat. Hours	28.4
2003 Weekday Trips	27



Route 160 Seattle – Interurban Park-and-Ride – Kent

Route Description

Route 160 provides peak directional weekday service between the East Kent area, the Interurban Park-and-Ride in Tukwila and downtown Seattle. Route 160 supplements Route 150 trips between the Interurban Park-and-Ride and downtown Seattle.

Problem Statement

Route 160 productivity is average in terms of passengers per trip but below average in terms of passengers per platform hour. Loads average 17 passengers per bus prior to the Interurban Park-and-Ride and 33 passengers between the Park-and-Ride and downtown Seattle. The highest ridership stops along the route are in downtown Seattle and the Interurban Park-and-Ride.

Route 160 splits the commuter market with Routes 150 and 163 between the Interurban Park-and-Ride and downtown Seattle. In the morning peak, passengers can take the first bus; however, in the evenings, passengers must choose whether to take a tunnel bus (Route 150) or a surface route (Routes 160 and 163), which leads to load imbalances. For instance, on Route 160, there are 120 passengers on 4 trips in the morning and 70 passengers on 3 trips in the afternoon. Route 160 does not tie into the Sounder Station even though it travels within a half mile of the station.

Route Statistics

Riders

2003 Daily	192
2003 per Plat. Hour	15.7
2003 per Trip	27.4

Service Headway (Minutes)

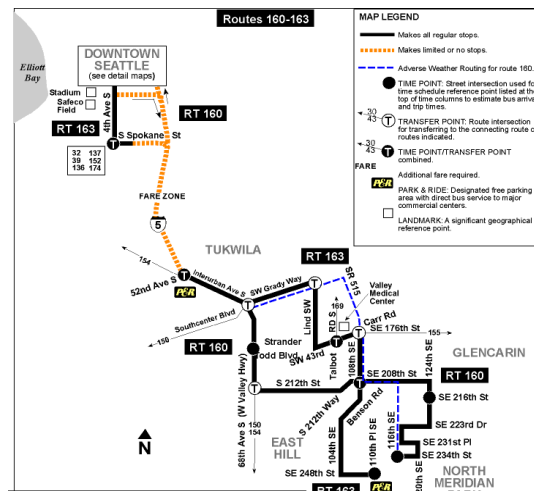
Weekday	4 morning NB trips
Peak	3 afternoon SB trips
Weekday Base	N/A
Evening	N/A
Saturday	N/A
Sunday	N/A

Service Span

Weekday	5:45A to 8:15A 4:00P to 6:00P
Saturday	N/A
Sunday	N/A

Weekday Service Provided

2003 Plat. Hours	12.2
2003 Weekday Trips	7



Route 163 Seattle – Interurban Park-and-Ride – Kent

Route Description

Route 163 provides peak directional weekday service between the East Kent area, the Interurban Park-and-Ride in Tukwila and downtown Seattle. Route 163 supplements Route 150 trips between the Interurban Park-and-Ride and downtown Seattle.

Problem Statement

When compared to other Tukwila routes, Route 163 productivity is average in terms of passengers per trip but below average in terms of passengers per platform hour. Route 163 is a stronger route than Route 160. The highest ridership stops along the route are in downtown Seattle and the Interurban Park-and-Ride.

Route 163 splits the commuter market with Routes 150 and 160 between the Interurban Park-and-Ride and downtown Seattle. In the morning peak, passengers can take the first bus; however, in the evenings, passengers must choose whether to take a tunnel bus (Route 150) or a surface route (Routes 160 and 163), which leads to load imbalances. There are 142 passengers on 4 trips in the morning and 113 passengers on 4 trips in the afternoon. Route 163 does not tie into the Sounder Station even though it travels within a half mile of the station.

Route Statistics

Riders

2003 Daily	256
2003 per Plat Hour	15.6
2003 per Trip	32

Service Headway (Minutes)

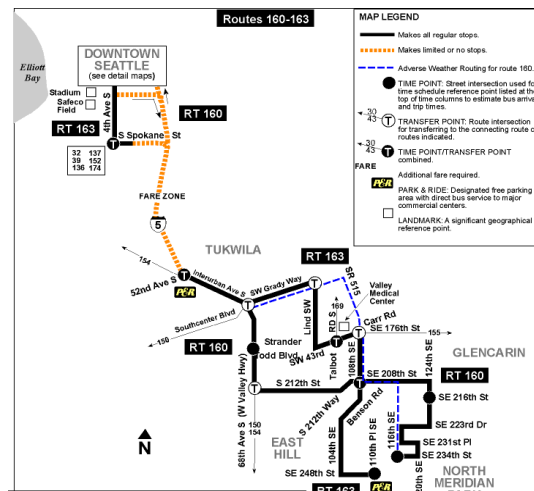
Weekday	4 morning NB trips
Peak	4 afternoon SB trips
Weekday Base	N/A
Evening	N/A
Saturday	N/A
Sunday	N/A

Service Span

Weekday	5:45A to 8:15A 4:00P to 6:30P
Saturday	N/A
Sunday	N/A

Weekday Service Provided

2003 Plat. Hours	16.4
2003 Weekday Trips	8



Route 170 Seattle – International Blvd – McMicken Heights

Route Description

Route 170 provides peak directional weekday service between McMicken Heights, north Tukwila, Airport Way, and downtown Seattle. This route does not take I-5 to downtown, and is a relatively slow ride to downtown Seattle.

Problem Statement

Route 170 productivity is fair in terms of passengers per trip but below average in terms of passengers per platform hour. Military Road at S. 152nd Street is the highest ridership stop within Tukwila. Other high ridership stops are at the King County Airport and downtown Seattle.

The routing through Tukwila is relatively circuitous. Route 170 ridership is unbalanced, with 57 passengers in the p.m. peak and 112 in the a.m. peak.

Route Statistics

Riders

2003 Daily	169
2003 per Plat. Hour	14.4
2003 per Trip	21.2

Service Headway (Minutes)

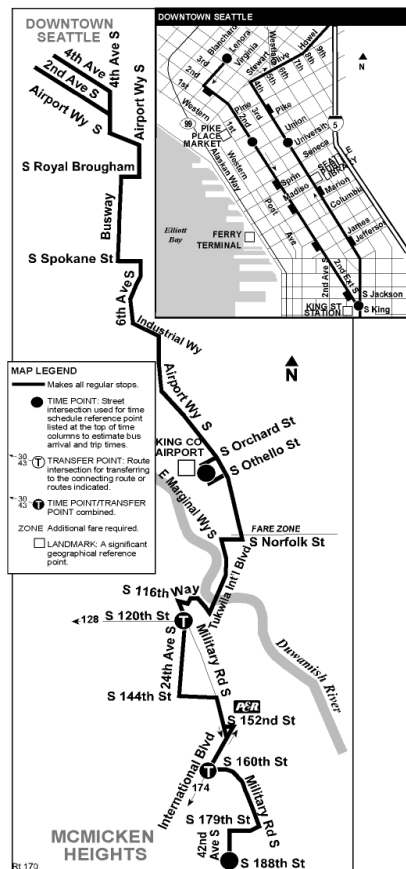
Weekday	5 morning NB trips
Peak	3 afternoon SB trips
Weekday	
Base	N/A
Evening	N/A
Saturday	N/A
Sunday	N/A

Service Span

Weekday	6:00A to 8:30A 4:00P to 6:00P
Saturday	N/A
Sunday	N/A

Weekday Service Provided

2003 Plat. Hours	11.7
2003 Weekday Trips	8



Route 173
Federal Way – Des Moines – I-5 – Marginal Way – Boeing

Route Description

Route 173 provides peak directional weekday service between Federal Way and Des Moines and the Boeing and industrial employment sites along Marginal Way. There are only 2 trips per day in each direction and times are geared to meeting shift times.

Problem Statement

Route 173 productivity is below average in terms of passengers per trip and passengers per platform hour. The highest ridership stops along the route are at the Federal Way Transit Center and at the Federal Center South along Marginal Way. There were few other stops with more than a couple of riders.

Peak hour routes should have higher productivity than Route 173. It appears that this market is insufficient to support the level of bus service that it has.

Route Statistics

Riders

2003 Daily	67
2003 per Plat. Hour	10.3
2003 per Trip	16.8

Service Headway (Minutes)

Weekday	2 morning NB trips
Peak	2 afternoon SB trips
Weekday	
Base	N/A
Evening	N/A
Saturday	N/A
Sunday	N/A

Service Span

Weekday	5:30A to 8:00A 3:00P to 6:00P
Saturday	N/A
Sunday	N/A

Weekday Service Provided

2003 Plat. Hours	6.5
2003 Weekday Trips	4

No Route Map is available for Route 173.

Route 174

Seattle – Interurban Park-and-Ride – Kent

Route Description

Route 174 provides all-day service between Federal Way, Des Moines, SeaTac, Tukwila, and downtown Seattle via old Highway 99 (known as Tukwila International Boulevard in Tukwila). It operates seven days a week and throughout the night as well.

Problem Statement

Route 174 is an excellent route. Its productivity is the best of any route operating in Tukwila. Within Tukwila, the highest ridership stops are along Tukwila International Boulevard at S. 144th Street, S. 148th Street, and S. 152nd Street.

Route 174 has heavy ridership especially considering the frequency throughout the day. Given the high ridership, shorter frequencies would be expected. The span of service is excellent.

Route Statistics

Riders

2003 Daily	6,270
2003 per Plat. Hour	32.4
2003 per Trip	64.0

Service Headway (Minutes)

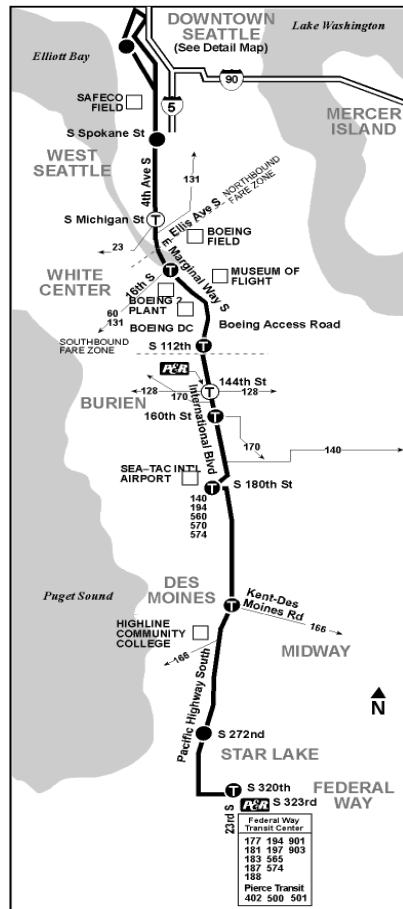
Weekday Peak	20
Weekday Base	30
Evening	30
Saturday	30
Sunday	30

Service Span

Weekday	5:30A to 3:30A
Saturday	5:30A to 3:30A
Sunday	5:30A to 3:30A

Weekday Service Provided

2003 Plat. Hours	193.7
2003 Weekday Trips	98



Route 941 Federal Way – Tukwila – Seattle First Hill

Route Description

Route 941 provides peak directional weekday service between the park-and-ride lots along I-5 between Federal Way and the medical facilities on First Hill in Seattle. The only stop within Tukwila for this route is at the Interurban Park-and-Ride.

Problem Statement

Route 941's productivity is among the best of any route in Tukwila. Heavy ridership occurs on all trips. The Interurban Park-and-Ride in Tukwila is one of the highest ridership stops on this route.

This is an excellent route that meets a specific niche market very well.

Route Statistics

Riders

2003 Daily	570
2003 per Plat. Hour	28.4
2003 per Trip	47.5

Service Headway (Minutes)

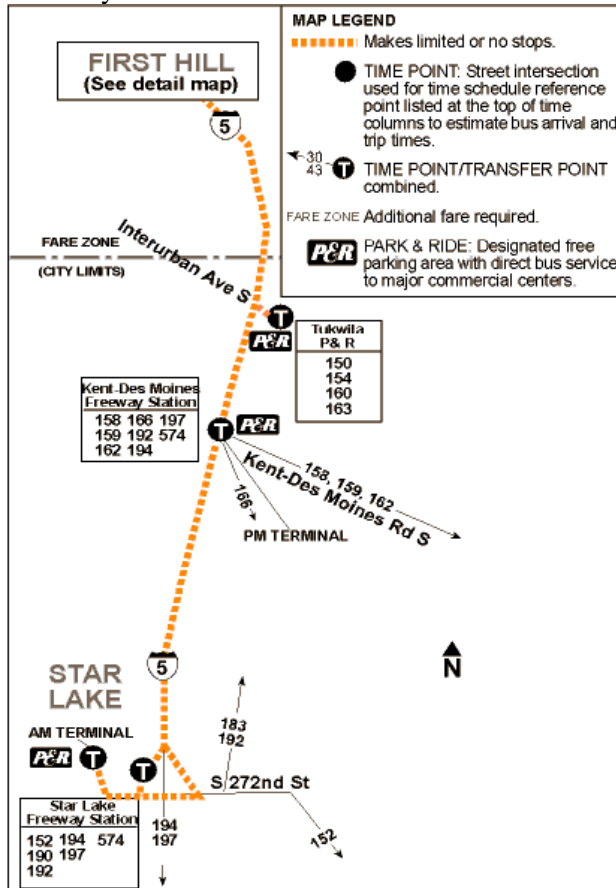
Weekday	7 a.m. trips
Peak	5 p.m. trips
Weekday Base	N/A
Evening	N/A
Saturday	N/A
Sunday	N/A

Service Span

Weekday	5:50A to 8:50A 3:30P to 6:30P
Saturday	N/A
Sunday	N/A

Weekday Service Provided

2003 Plat. Hours	20.1
2003 Weekday Trips	12



Sounder

Tacoma – Puyallup – Sumner – Auburn – Kent – Tukwila - Seattle

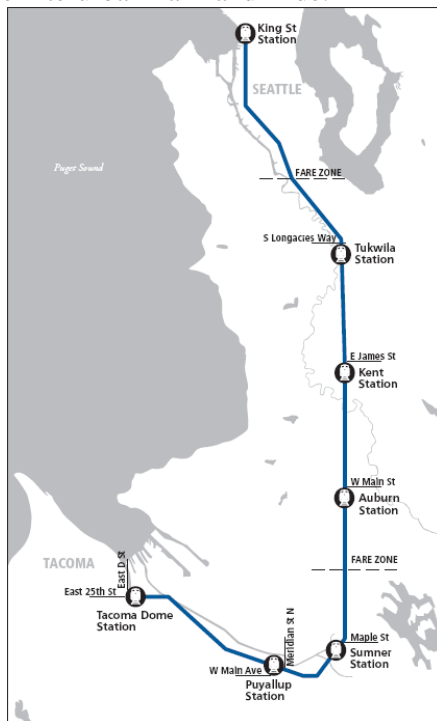
Route Description

Sounder provides peak directional weekday commuter rail service between Tacoma, the Kent Valley, and downtown Seattle. The only stop within Tukwila for this route is at the Tukwila Sounder Station

Problem Statement

Sounder ridership has been increasing steadily since service inception. In Tukwila, the ridership patterns have been such that approximately 100 passengers deboard in the morning in Tukwila and 20 persons board. In the afternoon, this pattern is reversed. Tukwila is the second most popular destination along the Sounder route, after downtown Seattle.

Based on existing marketing conditions, it appears that Tukwila Station is more of a destination than a trip origin. The addition of three more peak oriented trains and off-peak direction trains will further increase the market potential. It appears that the travel time savings of the train between Tukwila Station and King Street Station do not appear enough to attract riders from the much more frequent bus service at either the S. Renton Park-and-Ride or the Interurban Park-and-Ride.



Route Statistics

Riders

2003 Daily	2737
2003 per Plat. Hour	456
2003 per Trip	456

Service Headway (Minutes)

Weekday	3 morning NB trips
Peak	3 afternoon SB trips
Weekday Base	N/A
Evening	N/A
Saturday	N/A
Sunday	N/A

Service Span

Weekday	6:15A to 7:45A 4:55P to 6:35P
Saturday	N/A
Sunday	N/A

Weekday Service Provided

2003 Plat. Hours	6.0
2003 Weekday Trips	6

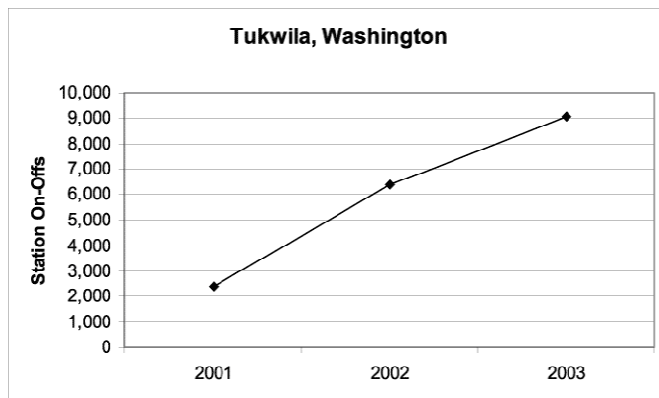
AMTRAK – Cascade Service
Seattle – Tukwila – Tacoma – Olympia – Chehalis – Vancouver – Portland

Route Description

Six daily AMTRAK trains currently serve Tukwila Station. Southbound trains to Portland depart Tukwila Station at 7:44 a.m., 1:59 p.m., and 5:39 p.m., while northbound trains to Seattle depart at 11:48 a.m., 3:32 p.m., and 9:17 p.m.

Problem Statement

Service was initiated at Tukwila Station in 2001. Since service inception, ridership has increased more than 300 percent.



Route Statistics

Riders at Tukwila Station

2003 Daily	25
2003 per Plat. Hour	N/A
2003 per Trip	4.2

Service Headway (Minutes)

Weekday	3 morning NB trips
Peak	3 afternoon SB trips
Weekday Base	N/A
Evening	N/A
Saturday	N/A
Sunday	N/A

Service Span

Weekday	N/A
Saturday	N/A
Sunday	N/A

Weekday Service Provided

2003 Plat. Hours	N/A
2003 Weekday Trips	6

Seattle Southside Express
SeaTac Hotels – Tukwila Hotels – Southcenter – Seattle

<u>Route Description</u>	<u>Route Statistics</u>																		
<p>The Seattle Southside Express provides scheduled shuttle service between SeaTac and Tukwila hotels to the Southcenter Mall and downtown Seattle. The shuttle provides door-to-door service to the hotels; passengers must call ahead for the service. The fare to Seattle from Tukwila locations is \$12 roundtrip or \$7 one-way. There is no fare to travel from SeaTac and Tukwila hotels to Southcenter Mall. The service is provided with 15 and 24 passenger vans.</p> <p>This service has been operating to Southcenter Mall since Fall 2003. The Southcenter Mall provides operating assistance to the private service provider to ensure that hotel guests have an easy way to access shopping opportunities. Additional funding for this route is provided by the Hotel Tax, and the contract is administered by the Tourism and Marketing Department.</p> <p>Thus far, ridership has been growing on the route, although actual ridership numbers are unavailable.</p>	<p><i>Riders</i></p> <table> <tr> <td>2003 Daily</td><td>N/A</td></tr> <tr> <td>2003 per Plat. Hour</td><td>N/A</td></tr> <tr> <td>2003 per Trip</td><td>N/a</td></tr> </table> <p><i>Service Headway (Minutes)</i></p> <table> <tr> <td>Winter Weekday</td><td>6 round trips daily</td></tr> </table> <p><i>Service Span</i></p> <table> <tr> <td>Weekday</td><td>9:45A to 7:15P</td></tr> <tr> <td>Saturday</td><td>9:45A to 7:15P</td></tr> <tr> <td>Sunday</td><td>9:45A to 7:15P</td></tr> </table> <p><i>Weekday Service Provided</i></p> <table> <tr> <td>2003 Plat. Hours</td><td>N/A</td></tr> <tr> <td>2003 Trips</td><td>10</td></tr> </table>	2003 Daily	N/A	2003 per Plat. Hour	N/A	2003 per Trip	N/a	Winter Weekday	6 round trips daily	Weekday	9:45A to 7:15P	Saturday	9:45A to 7:15P	Sunday	9:45A to 7:15P	2003 Plat. Hours	N/A	2003 Trips	10
2003 Daily	N/A																		
2003 per Plat. Hour	N/A																		
2003 per Trip	N/a																		
Winter Weekday	6 round trips daily																		
Weekday	9:45A to 7:15P																		
Saturday	9:45A to 7:15P																		
Sunday	9:45A to 7:15P																		
2003 Plat. Hours	N/A																		
2003 Trips	10																		
<p><u>Problem Statement</u></p> <p>The Seattle Southside Express is a fine example of a private provider filling a transportation niche within Tukwila and caters directly to those unwilling or unaware of the public transportation offered by King County Metro.</p>																			

Chapter 4: Service Recommendations

Chapter 4 summarizes the project recommendations based upon the data described in Chapters 2 and 3 and the public process.

4.1 SERVICE MODIFICATION RECOMMENDATIONS

The ridership data has been used to prepare individual activity profiles of each of the routes operated by King County Metro. The data have been aggregated to depict ridership patterns along each route alignment.

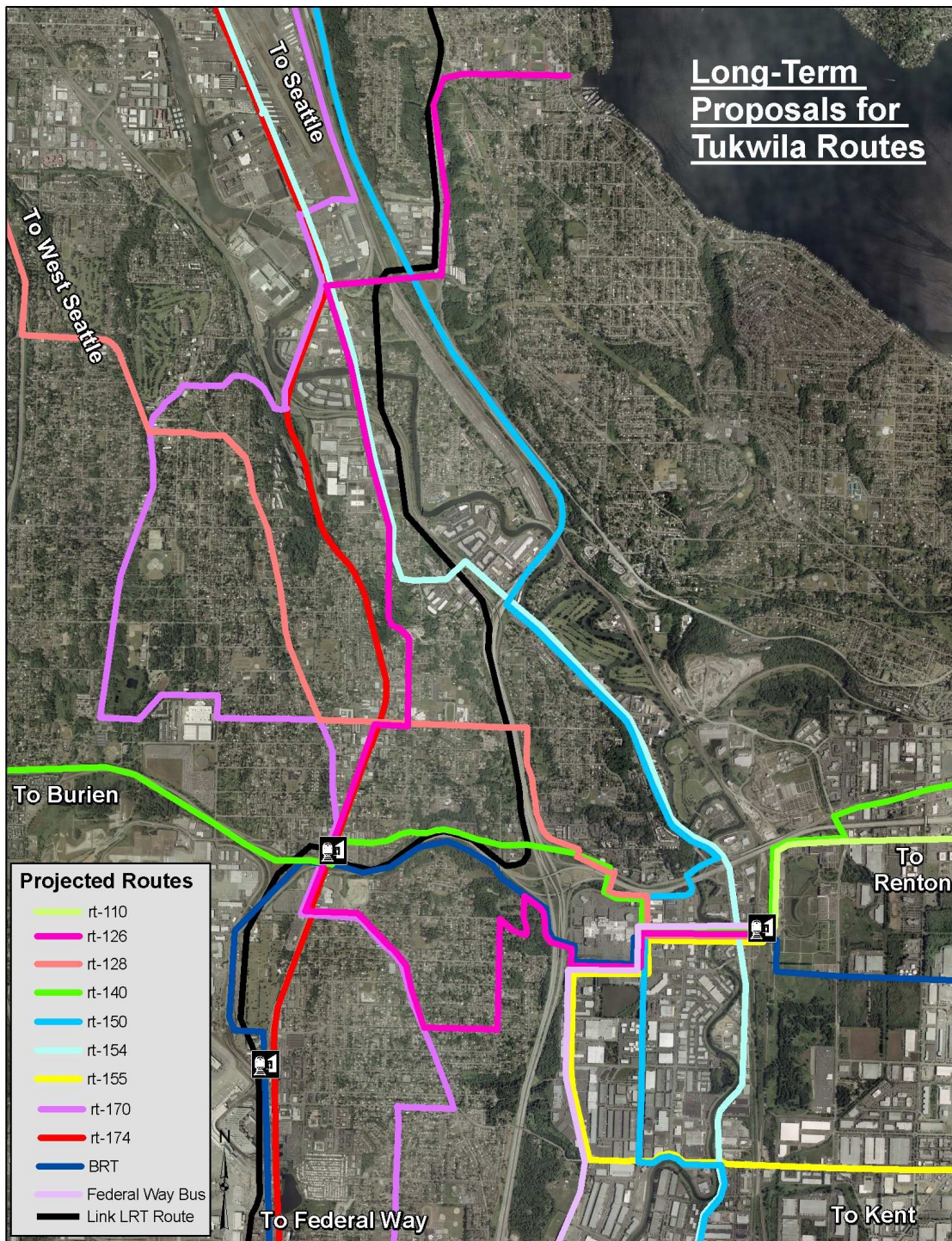
Often, the gathered and analyzed bus stop-level data does not, in itself, suggest modifications to the route's alignment or schedule, but merely serves to validate the existing operation. In a few instances, this information has directly suggested modifications to meet specific operational needs of that route.

Some changes in route alignments or schedules have been proposed to meet a system-wide need, unrelated to a specific route's ridership, productivity, patterns of activity or schedule adherence. In those cases, the ridership data has been used to identify any negative rider impacts expected to result from any proposed modifications.

The overall themes guiding the recommendations were the creation of several different focal points for service in Tukwila, including the S. 154th Street Station, Tukwila Station, a Southcenter Transit Center, and a new link connecting Tukwila Station and Southcenter. Improved routes and frequency feed into this multi-hub concept.

The service recommendations are not cost-neutral – they will require additional funding. Overall, the immediate service recommendations reflect the desire to improve frequency along the productive routes, serve new destinations, and to improve route directness. **Figure 4-1** shows the overall long-term route restructure recommendations. The corresponding description of the routes shown in **Figure 4-1** is in the following section.

Figure 4-1
Tukwila Long-Term Route Recommendations



4.2 TUKWILA ROUTE RECOMMENDATIONS

The following section describes the recommendations for both existing and proposed routes within the TUC. **Table 4-1** summarizes the changes and a full description of each one of the recommendations follows.

Table 4-1
Summary of Recommended Changes

Route	Recommended Changes
Short Term Recommendations (2005-2009 Implementation)	
128	<i>Span:</i> Extend Sunday Evening service for one hour. <i>Frequency:</i> Improve Sunday service to 30-minute service. <i>Routing:</i> None.
140	<i>Frequency:</i> Improve Saturday service to 30-minute service.
150	<i>Span:</i> None. <i>Frequency:</i> Improve weekday frequency to all-day 15-minute service. <i>Routing:</i> None.
154	<i>Span:</i> None. <i>Frequency:</i> None. <i>Routing:</i> Restructure route to serve Tukwila Station and employment sites north.
Mid-Term Recommendations (2009 & Changes to Feed LINK & Tukwila Station)	
126	<i>Routing:</i> Adjust routing to serve S. 154 th Street Station and Tukwila International Boulevard/S. 144 th Street. <i>Span:</i> Add midday, evening, and weekend service. <i>Frequency:</i> Midday, evening, and weekend service should be 30-minute service.
128	<i>Span:</i> None <i>Frequency:</i> None. <i>Routing:</i> Extend Route 128 to Tukwila Station.
140	<i>Span:</i> Add earlier trips on weekends. <i>Frequency:</i> Improve Sunday service to 30-minute service. <i>Routing:</i> Restructure route so that it provides a direct route between S. 154 th LINK station and the TUC (it would no longer serve Sea-Tac Airport), and serve Tukwila Station on every trip.
Long-Term Recommendations (2010-2015 Implementation)	
155	<i>Span:</i> Implement Sunday service. <i>Frequency:</i> Improve weekday frequencies to every 30 minutes. <i>Routing:</i> None.
BRT ⁵	<i>Span:</i> Implement weekday, Saturday, and Sunday route. <i>Frequency:</i> Ten to 20 minute service weekdays, Saturdays, and Sundays. <i>Routing:</i> From TUC to Sea-Tac Airport and Renton, and points beyond.
Fed. Way Rte. ⁴	<i>Span:</i> Implement weekday, Saturday, and Sunday route. <i>Frequency:</i> Every 30 minutes weekdays, Saturdays, and Sundays. <i>Routing:</i> From TUC south on Southcenter Parkway to serve new development.
TUC Trolley	<i>Span:</i> 11:00 a.m. – 8 p.m., weekdays, Saturdays, and Sundays. <i>Frequency:</i> 10 minutes. <i>Routing:</i> Tukwila Station, Baker, Andover Park W., Strander, Southcenter Parkway, Segale Park Dr. C, Andover Park W., S. 180 th and return.

⁵ The Bus Rapid Transit (BRT) route or the Federal Way route could be operated by either ST or KCM.

Short Term Recommendations (2005-2009 Implementation)

These recommendations represent the highest priority for improving transit mobility within Tukwila. They do not assume that any additional capital facilities have been constructed.

Route 128 Short-Term Recommendations

The current span and frequency of Sunday service does not meet the needs of the TUC. While most stores at Southcenter close at 7:00 p.m. on Sundays, some are open past 8:00 p.m. Route 128 should operate to accommodate these employees and shoppers. In addition, Sunday service on Route 128 operates every 60 minutes, which is inadequate to attract choice riders to the TUC. Route 128 should operate every 30 minutes on Sundays and also operate one hour later. This recommendation will require approximately 2,000 additional service hours.

128 Short-Term	Existing	Recommended
Span – Weekday	5:00A to 10:00P	5:00A to 10:00P
Saturday	6:00A to 10:00P	6:00A to 10:00P
Sunday	6:10A to 8:20P	6:10A to 9:20P
Frequency (minutes)		
Weekday Peak	30	30
Weekday Base	30	30
Weekday Evening	30	30
Saturday	30	30
Sunday	60	30
Additional Cost		2,000 hours

Route 140 Short-Term Recommendations

Weekend service on Route 140 operates hourly, which is inadequate given the TUC destinations and connections. Route 140 should operate every 30-minutes on weekends. Based on an examination of weekday and weekend layover practices on Route 140, some Saturday 30-minute service can be implemented at no net new cost by reducing weekday/Saturday layover and reallocating those resources to Saturday service.

140 Short-Term	Existing	Recommended
Span – Weekday	5:30A to 10:00P	5:30A to 10:00P
Saturday	8:00A to 10:00P	8:00A to 10:00P
Sunday	8:00A to 10:00P	8:00A to 10:00P
Frequency (minutes)		
Weekday Peak	15	15
Weekday Base	30	30
Weekday Evening	60	60
Saturday	60	30
Sunday	60	60
Additional Cost		No Cost

Route 150 Short-Term Recommendations

Route 150 is a great route that has tremendous additional ridership potential. Route 150 should operate every 15 minutes during the weekday midday. Improved weekday midday frequency would create a new market, not only for service between the TUC, Seattle, and Kent, but also for making trips requiring a midday transfer.

Funding for improved midday service has not been identified. This improvement, however, has such great ridership potential that it should be considered for short-term implementation.

150 Short-Term	Existing	Recommended
Span – Weekday	5:00A to 2:27A	5:00A to 2:27A
Saturday	5:45A to 2:26A	5:45A to 2:26A
Sunday	6:45A to 2:26A	6:45A to 2:26A
Frequency (minutes)		
Weekday Peak	15	15
Weekday Base	30	15
Weekday Evening	30	30
Saturday	30	30
Sunday	30	30
Additional Cost		10,500 hours

Route 154 Recommendations

In order to address the duplication issues with Route 150 and to provide a direct route from Tukwila Station to north Tukwila employment sites, restructure Route 154 to begin at Tukwila Station and end at Federal Center in South Seattle. The route would operate peak directionally, like today, and provide direct service to Gateway, Group Health, and Boeing. The portion of the existing route between Auburn and Kent would continue to be served by Route 150. By deleting the portion between Auburn and Tukwila, three trips in the morning and three trips in the afternoon can be operated, increasing service by 50 percent.

This recommendation should be implemented upon initiation of the full Sounder schedule.

This recommendation is cost-neutral – existing route resources would be reallocated to the new alignment.

154 Short-Term	Existing	Recommended
Span – Weekday	5:00A to 8:00A 2:30P to 6:50P	5:00A to 8:00A 2:30P to 6:50P
Frequency (minutes)		
Weekday Peak	2 morning trips 2 afternoon trips	3 morning trips 3 afternoon trips
Additional Cost		No Cost

Mid-Term Recommendations (LINK Implementation & Tukwila Station)

These recommendations should be implemented upon completion of the LINK S. 154th Street Station and the construction of Tukwila Station. Full implementation of 18 Sounder trains is assumed.

Route 126 Mid-Term Recommendations

The current span of service is three hours in the morning and three hours in the afternoon peaks. The existing span is inadequate to accommodate travel patterns to/from the TUC. All-day service and weekend service are necessary to provide full access from west Tukwila neighborhoods to the TUC.

Route 126 bypasses both Tukwila International Boulevard and the S. 154th Street Station, missing the two potential all-day ridership markets on this route. Route 126 should be realigned to serve

the S. 154th Street Station, so that local residents can access LINK without using the park-and-ride. It is only by realigning this route to serve the S. 154th Street Station that enough ridership demand exists for all-day service on Route 126.

This recommendation should be implemented upon the initiation of LINK service at the S. 154th Street Station.

This recommendation will require approximately 17,500 additional service hours.

126 Mid-Term	Existing	Recommended
Span – Weekday	6:00A to 8:50A	6:00A to 10:00P
Saturday	3:40P to 6:45P	7:00A to 10:00P
Sunday		8:00A to 10:00P
Frequency (minutes)		
Weekday Peak	30	30
Weekday Base		30
Weekday Evening		30
Saturday		30
Sunday		30
Additional Cost		17,500 hours

Route 128 Mid-Term Recommendations

Upon completion of the Tukwila Station bus facilities, Route 128 should be extended to Tukwila Station. The extension addresses a lost opportunity to provide service from the Kent Valley via Sounder to the Highline Community Hospital and to West Seattle. The cost for the extension should be negligible, as it would be paid for with the existing layover hours scheduled for weekdays and Sundays.

128 Mid-Term	Existing	Recommended
Span – Weekday	5:00A to 10:00P	5:00A to 10:00P
Saturday	6:00A to 10:00P	6:00A to 10:00P
Sunday	6:10A to 8:20P	6:10A to 9:20P
Frequency (minutes)		
Weekday Peak	30	30
Weekday Base	30	30
Weekday Evening	30	30
Saturday	30	30
Sunday	60	30
Additional Cost		No Cost

Route 140 Mid-Term Recommendations

Sunday service on Route 140 operates hourly, which is inadequate given the TUC destinations and connections. Route 140 should operate every 30-minutes on Sundays. Weekend span should also be expanded, particularly for early morning trips.

The routing between Sea-Tac and the TUC is circuitous. In an effort to reduce out-of-direction travel, we recommend realigning Route 140 to use Southcenter Boulevard/S. 154th between the TUC and Burien. Connections between the TUC could be served by either a BRT route between the TUC and Sea-Tac Airport or with a transfer from Route 140 to LINK at Southcenter Boulevard/S. 154th Street. This improvement should be made upon initiation of LINK service to the S. 154th Street Station. This recommendation can be accomplished with existing resources. Existing resources may also be used to improve midday service frequencies to every 15 minutes.

Route 140 should be permanently routed to Tukwila Station via Longacres Way and SW 16th Street. This would address three issues. First, it could improve on-time performance as Route 140 would no longer travel through the heavily congested Grady Way/West Valley Highway/I-405 interchange. Second, it addresses the perception that King County Metro does not serve Tukwila Station; the confusing practice of “some trips stop at Tukwila Station and some do not” would cease. Lastly, it would provide AMTRAK customers the opportunity to transfer to transit service. Currently, three Cascades trains stop at Tukwila Station and there is no connecting transit service. King County Metro intended on implementing this change in 2003, but they were unable to negotiate access with Boeing, which owns a portion of the roadway which this alignment would traverse. Negotiations with Boeing to allow buses to travel from SW 16th Street to Longacres Way should be restarted to better serve Tukwila Station.

These recommendations are all possible using existing resources – no net new hours are necessary to implement this recommendation.

140 Mid-Term	Existing	Recommended
Span – Weekday	5:30A to 10:00P	5:30A to 10:00P
Saturday	8:00A to 10:00P	6:00A to 10:00P
Sunday	8:00A to 10:00P	6:00A to 10:00P
Frequency (minutes)		
Weekday Peak	15	15
Weekday Base	30	15
Weekday Evening	60	30
Saturday	60	30
Sunday	60	30
Additional Cost		No Cost

Long-Term Recommendations (2010-2015)

These recommendations should be implemented after service has been restructured to account for LINK service and the upgraded Sounder Service. These recommendations assume several new developments. For instance,

- Development in Tukwila Valley South will be underway – creating new markets south of the TUC.
- The TUC Subarea Plan Long-Term redevelopment samples show a new east-west connection between the TUC and Tukwila Station - this new connection includes a new bridge across the Green River, potentially along Baker Boulevard. The new bridge would allow direct connections between the TUC and Sounder service without using the heavily congested Strander Boulevard corridor. Upon completion of this East-West Corridor, it is expected that it becomes the prime link for buses traveling between the TUC and Sounder Station (as shown in **Figure 4-1**).

Route 155 Long-Term Recommendations

Poor frequency severely reduces the effectiveness of Route 155's service on Southcenter Parkway. Route frequency must be improved to every 30 minutes on weekdays and weekends in order for this route to be a realistic option for persons wishing to travel to Southcenter Parkway. In addition, increased frequency could better serve the north side of Tukwila Valley South, tie residential development in Kent to Tukwila Station, and provide a Sounder to Valley Hospital connection. Span should be increased so that the last trips in the evening accommodate the hours of operation of Southcenter Mall.

This recommendation should be implemented in the mid-term, between 2010 and 2015 – it is a lower priority improvement than improving access to the TUC with Routes 126, 140, and 150.

The cost for increasing span and improving service to 30-minutes during weekdays and Saturdays, as well as adding Sunday service is approximately 12,200 hours.

155 Long-Term	Existing	Recommended
Span – Weekday	5:10A to 7:00P	5:10A to 9:00P
Saturday	8:10A to 7:00P	8:10A to 9:00P
Sunday		8:10A to 9:00P
Frequency (minutes)		
Weekday Peak	60	30
Weekday Base	60	30
Weekday Evening		60
Saturday	60	30
Sunday		30
Additional Cost		12,200 hours

Bus Rapid Transit (BRT) Long-Term Recommendations

Two different BRT processes have been proposed for Tukwila. The King County Metro BRT line outlined in the existing Six-Year Plan would connect Federal Way with Sea-Tac Airport and Tukwila Station. One of the options for the I-405 BRT Study connects Renton and Bellevue with Tukwila Station and the TUC.

For the purposes of long-range transportation needs, both alignments are necessary to provide high capacity transit to the TUC and to provide an all-day destination for the BRT. Park-and-rides will not generate all-day ridership for transit lines – active land uses such as the TUC will.

Routing for the BRT through the TUC should follow either Strander Boulevard or a new Baker Boulevard between Tukwila Station and Southcenter Mall, and continue north to the Airport via Strander Boulevard, Klickitat, and SR 518.

For the purposes of this plan, either Sound Transit or King County Metro can operate either BRT line.

Costs for the BRT are wholly dependent on which alignment is chosen by the I-405 BRT Study, therefore, no predictions for costs are made as a part of this plan.

Federal Way Route Long-Term Recommendations

A new route is proposed that connects the TUC to the proposed development in the Tukwila Valley South annexation (TVS). At this time, plans show up to 14 million square feet of new development in this location, although it should be cautioned that this is exploratory at this point. Bus service is necessary to connect the TVS property to both the TUC as well as points to the south. Given the projected densities, the service should operate, at a minimum, every thirty minutes on weekdays and weekends.

This route should begin at Tukwila Station and use Southcenter Parkway to connect to the TVS property. This route could be operated by either Sound Transit or King County Metro. Operating this route at 30-minute headways on weekdays, Saturdays, and Sundays would require approximately 26,800 hours.

Federal Way – Tukwila Long-Term	Existing	Recommended
Span – Weekday Saturday Sunday	None	6:00A to 11:00P 8:00A to 10:00P 8:00A to 10:00P
Frequency (minutes) Weekday Peak Weekday Base Weekday Evening Saturday Sunday	None	30 30 60 30 30
Additional Cost		26,800 hours

TUC Trolley Long-Term Recommendations

A rubber tired trolley route connecting Tukwila Station, the TUC core, Southcenter Mall, the Southcenter Parkway commercial area, and the north end of the TVS properties is recommended. The proposed routing would begin at Tukwila Station and follow the following alignment: Baker Boulevard, Andover Park W., Strander Boulevard, Southcenter Parkway, Segale Park Dr. C, Andover Park W., S. 180th and return.

A trolley that is frequent (every 10 minutes or better) plus fun (either a modern futuristic design or a classic wooden trolley replica) will attract people to park once in the TUC and use the trolley to visit other destinations. This approach has been used successfully to carry passengers and enhance the image of lifestyle centers, downtowns, and suburban shopping centers.

It is unlikely that a TUC Trolley will rank highly as part of King County Metro's overall South King County transit priorities. Therefore, it is imperative that local businesses within the TUC join in funding the Trolley. The estimated cost for adding a TUC Trolley route is 20,000 hours.

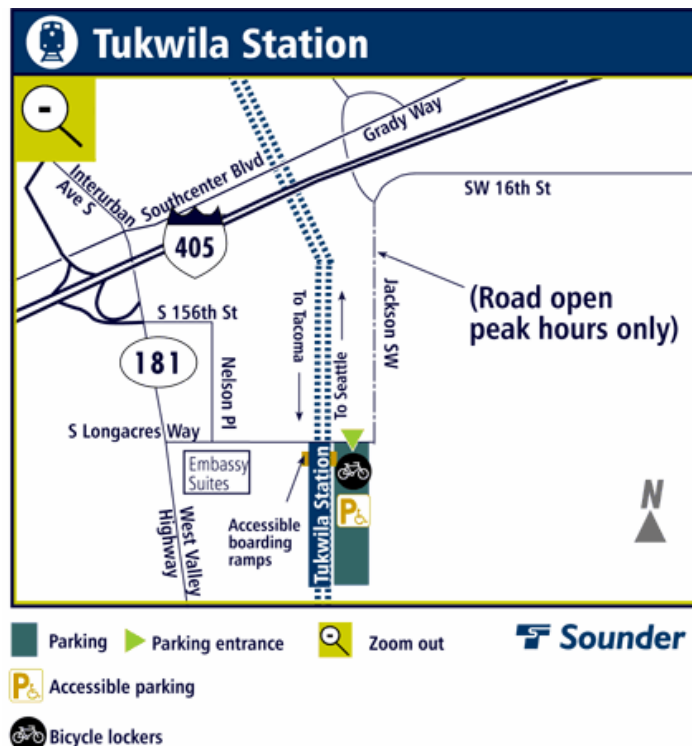
TUC Trolley Long-Term	Existing	Recommended
Span – Weekday Saturday Sunday	None	7:00A to 11:00P 10:00A to 9:30P 10:00A to 9:30P
Frequency (minutes) Weekday Peak Weekday Base Weekday Evening Saturday Sunday	None	10 10 15 15 15
Additional Cost		20,000 hours

Sounder Service Long-Term Recommendations

Sound Transit’s “Sounder” commuter rail service serves the eastern edge of Tukwila’s Urban Center area with three northbound trains in the morning and three southbound trains in the afternoon. The service runs between Tacoma and Downtown Seattle. The ridership pattern is currently such that approximately 100 persons disembark the northbound trains to head to destinations and only 20 people board the northbound trains in the morning. The reverse pattern is observed in the afternoon.

The current Tukwila Station is a temporary structure, with very limited facilities (**Figure 4-2**). A permanent station is slated for completion in the next four to seven years. The permanent station plan features station platforms with a pedestrian tunnel connecting both sides of the track. Walkways and roadways will also be improved to enhance pedestrian access.

Figure 4-2
Temporary Tukwila Commuter Rail Station Map



LINK Long-Term Recommendations

Construction of the Link Station at S. 154th Street is slated to commence in 2005 and the station is expected to be operational in 2009. The Station will be elevated with side platforms. Projected ridership for the station is 5,000 daily boardings. Connections between the S. 154th Street Station and the TUC are described in the recommendations for Route 140 and the BRT.

Chapter 5: Transit Capital Improvements

5.1 INTRODUCTION

Implementing transit service enhancements in Tukwila and creating a service network that supports existing and emerging travel patterns is a key stratagem for attracting and maintaining transit riders. However, other factors beside service availability influence “the decision to ride”. These factors include the speed and reliability of transit service, the convenience of facility and service access, and the overall attractiveness of transit services and facilities.

Collaborating with the region’s transit providers in investments in infrastructure that can improve transit travel time, reliability, and productivity as well as developing support facilities and amenities for passenger safety, comfort, and convenience is an objective of the City of Tukwila.

At this time, millions of dollars worth of LINK and Sounder commuter rail projects are underway in the Tukwila area to support transit operations. However, other investments in the “transit environment” are still needed to optimize the transit service in the City of Tukwila.

The level of resources available for capital improvements required by the transit service network in Tukwila is limited and comes from a variety of sources. Further, transit providers—Sound Transit in particular through LINK and Sounder—will spearhead many of the transit rail improvements undertaken in the City, but be much less involved in the crucial bus connections to/from the rail stations.

5.2 NEED FOR CAPITAL IMPROVEMENTS

The goal of increasing overall transit ridership within the City of Tukwila drives the need for both service and capital improvements. Transit speed and reliability, improved passenger amenities, and access to transit service are all crucial for attracting and maintaining transit riders.

In order to maximize the effectiveness and utilization of the service improvements, operating costs must be contained. Increasing traffic congestion and the associated reductions in transit travel time and unreliability have detrimental effects on transit ridership. Also, additional congestion has an effect on operating costs. The more buses are delayed, the greater the cost to the operating agency, King County Metro.

King County Metro spends tens of thousands of annual service hours (equating to millions of dollars) on maintaining existing service levels on routes that operate on highly congested roadways. For example, a route may need four buses to operate in the morning, midday, and evening, but congestion-related delays require the addition of a fifth bus in order to maintain the same level of service in the afternoon peak. The capital cost of the fifth bus and the operating hours necessary to operate it are directly caused by congestion and travel time delays that can potentially be addressed by capital projects. Speed and reliability enhancing capital projects could allow more hours to be used for service expansion and allow areas with transit needs to be served.

In addition to saving scarce operating dollars, capital speed and reliability projects will assist in attracting additional ridership. Transit travel times are generally longer than auto travel times. Capital speed and reliability projects can help close this travel time gap, particularly on routes that operate through congested areas.

In addition to bus travel time, the ease of accessing transit service is a prime determinant of ridership. Throughout Tukwila, there are streets with high levels of bus service, yet the supporting infrastructure of sidewalks, curb cuts, or shelters make it impossible to easily access the buses. Moreover, if you can access the bus stops, the waiting environment is unfriendly, and not conducive to extended waiting. For example, portions of Interurban Avenue S. have limited commuter bus service operating on adjacent to the Gateway Center. Interurban Avenue S. in this area has limited sidewalks; bus patrons must walk on a grassy shoulder. In addition, there are no shelters, leaving passengers exposed to the elements. Finally, traffic levels on Interurban Avenue S. are high. The overall experience of a person accessing transit is poor on this segment of Interurban Boulevard. Correspondingly, no matter how much service levels are improved on Interurban Boulevard, ridership response will likely be muted. Capital investments are necessary to improve ridership in this corridor. The Interurban Avenue S. example is repeated throughout Tukwila and shows the need for a comprehensive look at both service *and* capital improvements to help Tukwila achieve its transit ridership goals.

The following sections will outline the recommended capital improvements that both supplement and support the necessary service frequency improvements. The goal of the resulting mix of both service and capital improvements is to maximize the overall return on transit investment and improve system-wide transit ridership.

5.3 EXISTING FACILITIES

King County Metro and Sound Transit maintain capital facilities within Tukwila. King County Metro maintains bus shelters, bus stops, and layover facilities throughout Tukwila. The City of Tukwila assists with maintenance tasks such as garbage pickup and on-going costs such as power for lighting. Currently, there is only one major bus facility located within Tukwila; the Interurban Park-and-Ride. Sound Transit operates Tukwila Station in east Tukwila.

Southcenter Bus Stop

The focal point of bus service within the TUC is located on southbound Andover Avenue W. just south of Baker Boulevard. Due to historical reasons, there is no corresponding northbound stop. Given the passenger loads of over 1,000 boardings daily at this location, the amenities and weather protection are woefully inadequate. There is not enough shelter space or seating area. In addition, from an operating standpoint, the one-way stop forces buses to travel out-of-direction to serve the one bus stop. This adds to passenger travel time and operating costs.

Tukwila Station

Sound Transit has constructed a temporary structure at Tukwila Station to accommodate AMTRAK and Sounder trains. There are 234 parking stalls at the temporary station. Utilization of the parking is less than 20 percent. Tukwila Station ridership has been such that this is a destination station instead of an origination station; ergo the lower parking utilization. A contributing factor to the low parking utilization is the poor signage to Tukwila Station. The permanent station's projected completion date is within the next ten years.

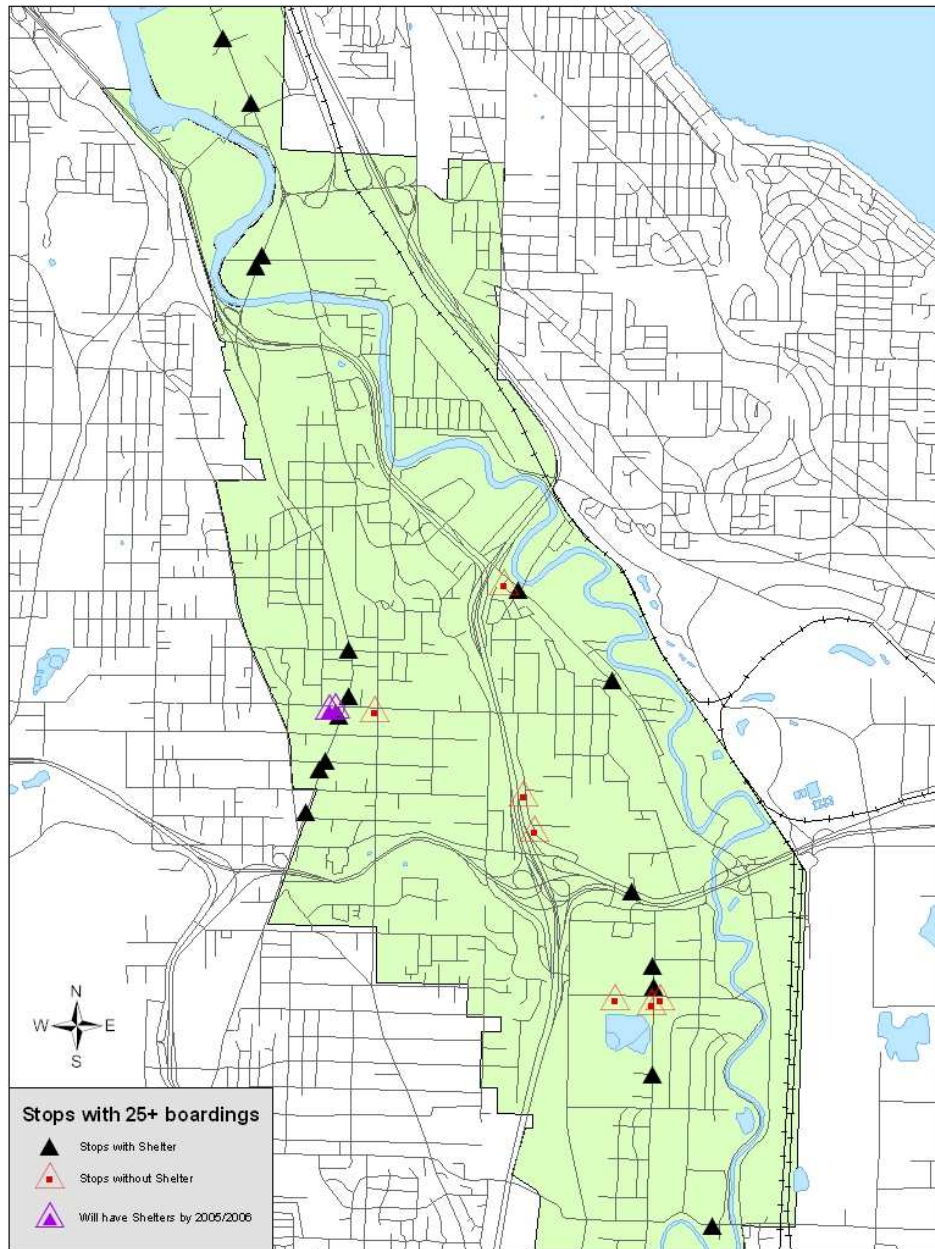
Interurban Park-and-Ride

This 255 stall park-and-ride is located in Interurban Avenue just south of I-5. There is a smaller 39 stall lot immediately adjacent to the Interurban Park-and-Ride. These lots are the closest to Seattle of all park-and-rides in the South I-5 corridor. The facilities are chronically above capacity. Due to the proximity to Seattle and the good service levels between these facilities and downtown Seattle, it is very popular with non-Tukwila residents. Hide-and-ride parking on neighborhood streets up the hill from the Park-and-Ride is commonly used for overflow purposes.

Bus Shelters

In suburban environments, as a rule, shelters should be provided if there are 25 or more boardings per day. Within Tukwila, based on Fall 2002 data, there are seven bus stops that have 25 boardings or more, yet no existing or planned shelter. One of these stops is at the Interurban Park-and-Ride, two are on Macadam Road, one is on S. 144th Street, and the remaining three are immediately adjacent to the intersection of Strander Boulevard and Andover Park W. (**Figure 5-1**).

Figure 5-1
Bus Stops Necessitating a Bus Shelter



5.4 LONG RANGE CAPITAL IMPROVEMENTS

Several projects are in the planning stage that will have immediate effect on transit in Tukwila.

Central LINK

Central LINK (LINK) is the initial 14-mile light rail line that will serve downtown Seattle, the industrial area south of downtown, and residential and commercial neighborhoods in Beacon Hill, the Rainier Valley, Tukwila, and SeaTac (**Figure 5-2**). Within Tukwila (**Figure 5-3**), only one station is planned at S. 154th Street (a second station at Boeing Access Road has been deferred). While not directly in the TUC, connections to/from LINK will play a significant role in improving transit access within the TUC.

S. 154th Station

The S. 154th Street Station will provide access to residents of Tukwila, SeaTac, and Burien. Major destinations within the vicinity of this stop include the future Tukwila Village, the TUC, and significant amounts of multi-family housing. The station will be elevated and will include approximately 600 parking stalls at opening. It will also include connections to bus services.

A shuttle bus will connect passengers from the S. 154th Station to Sea-Tac International Airport until the light rail station is constructed in 2011. A ride on LINK from downtown Seattle to S. 154th Street will take 33 minutes. LINK trains will start service from downtown Seattle to South 154th Street by 2009 and by 2020 are projected to carry at least 42,500 riders a day.

Local transit links to the S. 154th Station will be provided by King County Metro, including the connection to the TUC. Some changes in routing are expected upon the opening of the S. 154th Station, but more changes could be expected in 2011 upon extension to the Airport.

Tukwila Station

A draft design for the permanent Tukwila Station has been completed. However, based on a cursory review of the final design, there are several issues. Over 400 parking stalls have been designed, even though existing utilization of the 250 car lot is less than 20 percent. Due to budget constraints, the actual Station design is functional, yet it is not a placemaking place, such as Auburn, Kent, or Sumner. Any hope for Tukwila Station acting as an anchor for a Transit Oriented Development depends on changing the station design from its current auto-oriented incarnation into more of a pedestrian destination. Also, a clearly defined bus/train transfer area could address the public perceptions that such a connection does not exist.

Sound Transit and the City of Tukwila are planning to reexamine the station design in order to accommodate the potential relocation of the Union Pacific railroad tracks and to determine the best access from Strander Boulevard to the station site.

Figure 5-2
Central LINK Route



Figure 5-3
Central LINK Route in Tukwila



Transit Signal Priority

TSP is a technology that allows specially equipped buses to communicate with an approaching traffic signal and ask it to provide additional green light time for the bus. A transponder installed on the bus sends a signal to a controller at the street intersection.

King County's TSP system is *not the pre-emption system* used to serve emergency vehicles. Pre-emption may skip side street signal phases. When TSP is activated, the traffic controller provides the additional green time to the bus by reducing the green time available to the side streets and pedestrian crossing to safety and service minimums.

The goals of this project are to improve transit travel time and schedule reliability. Transit riders who experience a smoother and more comfortable ride with fewer stops are more likely to continue riding. Improved service means people who have not taken the bus before may be more likely to try it. Fewer stops also mean reductions in the driver's workload, fuel consumption, vehicle emissions, and maintenance costs.

Currently, King County Metro has installed TSP on Aurora Avenue N. in Shoreline and Seattle, Rainier Avenue in Seattle, and at the intersections of NE 8th Street/148th Avenue & 156th Avenue NE. The results of these projects will be used to improve strategies on other active, funded projects on which King County is collaborating with local cities. These projects include the following corridors:

- Lake City Way in Seattle
- 15th Avenue W. and 1st Avenue South in Seattle
- State Route 99/Pacific Highway South in Federal Way, Kent, Des Moines, SeaTac and Tukwila
- NE 124th Street in Kirkland
- 148th and 156th Avenue NE in Redmond
- Downtown Renton

There are no existing plans for TSP on Tukwila streets, although the ability to implement TSP will be enhanced throughout Tukwila by the City's Signal Interconnect project, which is scheduled for construction in the TUC in 2006.

High Capacity Transit

Currently, there are no regional plans to serve the TUC by existing or future high capacity transit systems. However, Sound Transit is currently conducting a study regarding the feasibility of a high capacity transit line that could directly serve the TUC. It should be cautioned, however, that the Sound Transit work is only a feasibility study and is not a commitment on the part of Sound Transit to fund or operate any of the alternatives from the study.

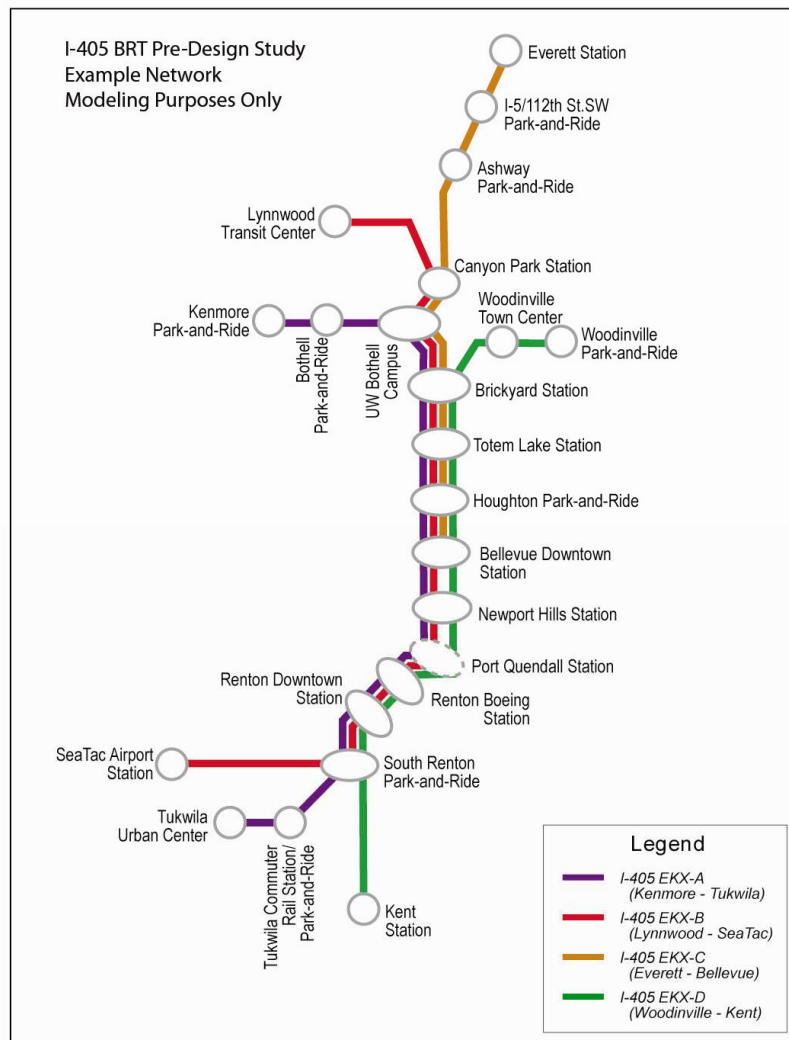
I-405 Bus Rapid Transit

The I-405 Bus Rapid Transit Concept is currently being studied as part of the overall project to improve mobility along the I-405 corridor. The initial concept recommended that all-day, high-speed Bus Rapid Transit (BRT), with buses coming every 10 minutes, be provided in the I-405 corridor. Dedicated HOV lanes and direct access ramps would allow BRT buses to travel at high speeds with a high degree of reliability. Attractively designed buses and stations would make the passengers feel comfortable in riding the BRT buses. BRT fares would be collected off-vehicle, similar to other high capacity transit. The BRT stations would be located along I-405 at key communities in South Snohomish County and East and South King County. According to the

August 2003 Concept White Paper, a stop is projected for Tukwila in a future expansion. The August 2003 Concept White Paper 2010 ridership projection for the entire Bus Rapid Transit line was 4,500 daily boardings. Existing routes are projected to carry 3,500 daily boardings; the I-405 corridor BRT line carries only 1,000 more daily passengers at a cost of \$0.5 to \$1.5 billion.

Since the 2003 Concept White Paper was completed, more detailed routing and ridership analyses have been completed as part of the I-405 BRT Pre-Design Study. **Figure 5-4** shows an example network of the layered service concept that is being discussed as part of this effort. The layered service concept is preliminary only and the configuration of the proposed BRT system is still under development.

Figure 5-4
Potential I-405 BRT Routes from September 2004 Presentation



Tukwila Station and the TUC are two of the route termini for one of the “route layers”. **Table 5-1** shows the predicted a.m. peak ridership for the Tukwila BRT stops. No commitments on which routing alternative should be pursued have been made at this time.

Table 5-1
BRT Layered Service Concept Projected Ridership⁶

Station	2014		2030	
	Boardings	Alightings	Boardings	Alightings
Tukwila Station	90	6	103	7
TUC Station	11	53	15	81

5.5 KEY CAPITAL NEEDS RECOMMENDATIONS

Tukwila Transit Center (Southcenter Mall)

The existing focal point of bus service within the TUC is located on southbound Andover Park W. just south of Baker Boulevard. Due to historical reasons, there is no corresponding northbound stop. Given the passenger loads of over 1,000 boardings daily at this location, the amenities and weather protection are woefully inadequate. There is not enough shelter space or seating area. In addition, from an operating standpoint, the one-way stop forces buses to travel out-of-direction to serve the one bus stop. This adds to passenger travel time and operating costs.

King County Metro, Westfield, and the City of Tukwila have held discussions regarding the location of improved facilities for Mall patrons. Four different options were examined on Andover Park West between Tukwila Boulevard and Strander Boulevard. The locations on Andover Park West included:

1. Existing southbound bays plus new northbound bays by the Acura property.
2. Existing southbound bays plus new northbound bays by the Fatigue property.
3. New southbound bays north of Baker Boulevard plus new northbound bays by the Fatigue property.
4. Increase existing southbound bay capacity to 3 bays with independent arrival/departure capabilities.

At this time, a decision has been made to proceed with increasing southbound bay capacity to 3 bays with independent arrival/departure. Increasing the southbound bay size will address some of today's capacity needs – it is inadequate for future service needs, particularly if BRT service is initiated. A further explanation of future capacity needs is discussed below.

Future Operational Needs of the Tukwila Transit Center

The Tukwila Transit Center, even with the expansion of the southbound bay, cannot accommodate the number of buses that would be operating through the Tukwila Transit Center if all the Long-Range Recommendations are implemented. Today, approximately 300 buses travel through the Tukwila Transit Center area. In the future, this could almost triple to 850 buses – depending on funding availability.

⁶ Source for routes and ridership projections is *I-405 Bus Rapid Transit South Corridor Pre-Design*, City of Tukwila Update, September 20, 2004

Table 5-2
Projected Number of Buses serving Tukwila Transit Center

Route	Existing Buses per Weekday		Long-Term Buses per Weekday	
	Southbound	Northbound	Southbound	Northbound
126	11*	11*	34	34
128	34	33	34	33
140	43	44	56	56
150	54	53	66	65
155	14	13	28	29
Fed. Way Rt.	0	0	30	30
TUC Trolley	0	0	90	90
BRT	0	0	90	90
Total	156	154	428	427
Service levels in this table assume additional funding sources – it does not represent a commitment by any transit agency to provide this level of service. * Route currently does not serve Andover Park W., but instead stays on Strander Boulevard. This analysis assumes that Route 126 will be rerouted upon redevelopment of Baker Boulevard.				

Future Travel Patterns at the Tukwila Transit Center

Upon redevelopment of the TUC, Baker Boulevard (or a close-by parallel street) will likely assume the role of a transit corridor between Andover Park W. and Andover Park E. **Figure 4-1** shows the potential route alignments upon completion of the Baker Boulevard corridor. As shown in **Figure 4-1**, there would be three different route patterns:

1. Routes traveling north-south through the Tukwila Transit Center,
2. Routes traveling east-west through the Tukwila Transit Center, and
3. Routes ending at the Tukwila Transit Center.

The location and configuration of an expanded Tukwila Transit Center must take into account these three travel patterns, and serve them with a minimum of out-of-direction travel.

Future Layover Needs at the Tukwila Transit Center

With the construction of Tukwila Station and the redevelopment of the TUC, the number of routes ending at the Southcenter Transit Center is expected to decrease from the existing two routes (Routes 155 and 128) to zero. Staging space and the associated layover space in the TUC will become less necessary.

Location of Transit Center

The transit center location must meet several potentially competing needs. Some considerations include:

- **Capacity:** Can the Transit Center meet the space demands for additional service in the future?
- **Passenger Demand:** Transit Centers should be located as close to actual destinations as possible. Placing transit centers adjacent to non-developed, non-passenger generating land use areas such as freeways or parking lots should be avoided.
- **Bus Operations – Safety and Reliability:** Transit Centers should not introduce bus operating issues that compromise either safety or schedule reliability.
- **Cost:** Transit Centers should not introduce out-of-direction travel that increases transit operating costs.

- **Passenger Safety:** Transit Centers should not compromise passenger safety and therefore the need to cross streets for transfers should be minimized.
- **Fit within TUC Vision:** The TUC plan calls for a long-term increase in density and activities to the east and south of the Mall. The proposed Transit Center improvements should be compatible with the proposed density increases.

Each of the four locations has been evaluated based on these six different criteria. The results of this evaluation is shown in **Table 5-3** and is discussed below.

Table 5-3
Evaluation of Tukwila Transit Center Expansion Options

Southbound Location	Northbound Location	Capacity	Passenger Demand	Safety for Buses	Cost	Passenger Safety	Within TUC Vision	Total
Existing	Acura property	●	◐	◐	●	◐	●	◐
Existing	Fatigue property	●	◐	●	◐	◐	◐	◐
North of Baker	Fatigue property	●	◐	◐	○	◐	◐	◐
Expanded Existing Zone	None	○	◐	●	○	◐	◐	◐

<i>Legend</i>	Much Worse than Average		Average		Much Better than Average
	○	◐	◐	◐	●

1. **Existing southbound bays plus new northbound bays adjacent to the Acura property.** – This Transit Center configuration would have the capacity for future service increases, including the BRT. This Transit Center would best meet the needs of the Mall, the redeveloped TUC, and is within ½ mile walking distance of a significant portion of the TUC. The near side stop in the northbound direction is a minor safety and reliability issue that may be addressed with a separate signal phase – it is addressable. From a passenger safety perspective, only one street would need to be crossed to transfer.

Virtually no out-of-direction travel is introduced for buses, which reduces operating costs and increases ridership potential. Buses traveling on east-west routes can use Baker Boulevard and stop at the Tukwila Transit Center in both directions. This is an improvement over today's operation. This location is well situated to accommodate the redevelopment in the TUC.

2. **Existing southbound bays plus new northbound bays adjacent to the Fatigue property.** – This Transit Center configuration would have the capacity for future service increases, including the BRT. The northbound stop is located further away from the active land uses than all of the other alternatives, which will reduce ridership potential. From a bus operator standpoint, the far side configuration of the Transit Center for both stops improves the ability to access and egress the stops. It is less optimal for passenger safety, as passengers would need to cross two wide streets to transfer between routes.

Significant out-of-direction travel is introduced for buses, particularly east-west routes (Routes 126, 140, and 155) that are traveling through the TUC. In order to access the northbound stops, east-west buses would need to travel all the way to Tukwila Parkway, which would add several minutes of running time. This location is an improvement over today's operation, and is reasonably well situated to accommodate the redevelopment in the TUC.

3. **New southbound bays north of Baker Boulevard plus new northbound bays adjacent to the Fatigue property.** – A Transit Center located entirely to the north of Baker Boulevard on Andover Park W. has the capacity for future service increases, including BRT. It is not located well to accommodate future passenger growth because the center is further removed from active land uses – the passenger draw area shrinks as one approaches I-405. The near side stop in the southbound direction is a minor safety and reliability issue that may be addressed with a separate signal phase – it is addressable. From a passenger safety perspective, only one street would need to be crossed to transfer. This location introduces out-of-direction travel for any bus routes traveling east-west through the TUC, including Routes 126, 140, 155, and any other future east-west route such as BRT or Federal Way route. Out-of-direction travel adds travel time, which reduces ridership potential and adds operating costs. While an improvement over today's operation, this location is not ideally situated to accommodate the redevelopment in the TUC.
4. **Increase existing southbound bay capacity to 3 bays with independent arrival/departure capabilities.** – A Transit Center located entirely to the north of Baker Boulevard on Andover Park W. does not have the long-term capacity for future service increases, including BRT. Expanding the southbound capacity by one bay is an excellent interim solution for the next five or six years. However, it is insufficient, by itself, to accommodate a more than doubling of bus service to the Transit Center, which given the growth in the TUC is projected in the long-term. This location has few safety and reliability issues. It is the easiest of options for most passenger transfers – although anyone transferring to Route 150 in the northbound direction must cross Andover Park W. and walk a long block.

This transit center configuration often introduces passenger confusion. Several routes stop in the same area, but they go different directions. For instance, Route 140 heads to both Renton and Burien from the same bus stop. Many passengers do not see the headboard showing the destination and then ask drivers their destinations, which slows down operations and adds costs.

The routing to serve this location creates out-of-direction loops. Route 140, in particular, has confusing figure 8 alignment around Southcenter Mall as a result of having only southbound bays in the Tukwila Transit Center. Confusing routing patterns inhibit potential ridership. King County Metro currently incurs additional operating costs as a result of out-of-direction travel. The existing site, without a corresponding northbound stop, does not tie into the TUC core development occurring on the east side of Andover Park West.

Expansion of the existing Transit Center to three bays is a welcome addition that will address short-term capacity concerns. Additional space will be necessary for higher frequency services desired in the long-term.

Joint Development Potential

The current bus boarding area is perceived negatively by many of the surrounding business owners. According to them, the bus stop brings vandalism, other crimes, and vagrants into a prime retail area.

This perception, whether right or wrong, can only be changed using some of the elements that addressed this issue in other areas. Eyes on the street are essential to reduce this perception. ***A standalone transit center at the edge of a parking lot, no matter how architecturally appealing, will not entirely remove the perception that transit attracts undesirable elements.*** Throughout the country, it is becoming apparent that the key to success for transit centers is joint development. Whenever possible, a transit center should be integrated with an active land use such as a coffee shop, restaurant, or something else that could cater to the needs of both people at the transit center and to patrons coming to the Mall. These types of businesses provide the “eyes on the street” security. Businesses adjacent to the transit center can generate revenues from this facility and make this into an asset instead of a perceived liability.

A successful transit center will have a supporting business adjacent to it. Relocated transit center plans, no matter the location, should integrate the transit center into active land uses.

Tukwila Transit Center Amenities

In addition to the recommended joint development features, the existing waiting area should be improved to incorporate the following features:

- **Widened Sidewalks** – During large parts of the day, the existing sidewalk is choked with waiting passengers. Passengers spill into the Mall parking lot to avoid the crowded sidewalk conditions. Sidewalk width should be widened by at least 4 feet to 14 feet wide.
- **Sitting Areas** – Currently, there are few opportunities for waiting passengers to be seated. Visual inspection has showed that waiting passengers often sit on the curb separating the sidewalk and the Mall parking lot.
- **Shelters** – There are two standard sized shelters at the existing Southcenter Mall stop. Given over 1,000 daily patrons at this stop, two shelters provide inadequate shelter. A larger canopy type shelter should be considered in lieu of adding additional standard transit shelters.

Given the traffic levels on Andover Park West, pullouts are essential for this transit center. Two bays in each direction should accommodate both existing and future demand.

Tukwila Station

In 1999, Sound Transit completed a draft design for the Tukwila Sounder Station. The draft design assumes primary access to/from the facility from Longacres Way, with provisions for a roadway extension to the proposed Strander Boulevard. The station design includes parking for over 400 parking stalls, a pedestrian tunnel under the tracks, artwork, two retention ponds, a kiss-and-ride, bus loop, bus driver facilities, and bus shelters. One of the goals of the Tukwila Station design was to be functional, yet not place as much emphasis on place-making as stations in Kent, Auburn, Sumner, and Puyallup. Budget, or lack thereof, has been a prime reason for the reduced place-making emphasis.

The draft design of Tukwila Station no longer meets the conditions of the site. The railroad track relocation of the UP railroad, the connection to the Strander overpass, and the sizing of the park-and-ride are all issues that must be incorporated into the final design.

Railroad Track Relocation

At this time, the Union Pacific (UP) and the Burlington Northern Santa Fe (BNSF) Railroads have come to verbal agreements regarding consolidating the rail corridors that are located just east of West Valley Highway. A written agreement is being developed to finalize the details.

According to our understanding of the agreement, the BNSF line will remain in its existing configuration and retain its existing right-of-way. Between I-405 and south of Strander Boulevard, the UP line will be relocated to operate immediately adjacent to the BNSF right-of-way. The UP will retain its 100 foot right-of-way. Thus, at the end of the relocation process, there will be a combined 200 foot right-of-way that includes both the BNSF and UP tracks.

The City of Tukwila, Sound Transit, and Renton are currently working on a plan to phase the relocation of the UP tracks, construction of the permanent station, and construction of the Strander Boulevard overpass.

Parking

The draft station design shows approximately 400 parking stalls. Current utilization of the 250 car temporary park-and-ride is less than 20 percent, even though the existing Sounder schedules of three northbound trains in the morning and three southbound trains in the afternoon serves the peak of the peak market to/from Seattle. Based on visual inspection, a large amount of parking at Tukwila Station is for VanShare vehicles, not for people driving to Tukwila Station to park. Based on the 20 Sounder boardings at Tukwila Station in the northbound direction in the morning peak, about 20 parking spaces are being used by commuters heading to Seattle. Parking utilization is not growing, even as originating ridership at all other stations has grown dramatically.

Ridership, and park-and-ride utilization, may increase as Sounder frequencies improve. According to Sound Transit, full operation of Sounder past Tukwila Station will include 18 trains (nine in the morning and nine in the evening). According to Sound Transit, by 2008, there will be six northbound trains and three southbound trains in the morning and six southbound and three northbound trains in the afternoon. Headways will be approximately 30 minutes.

An examination of the ridership patterns at Tukwila Station show that the demand for park-and-ride space is very limited. Currently, Tukwila Station is the second largest destination (after downtown Seattle) along the south Sounder Line. There are approximately 25 northbound boardings and 150 alightings in the morning peak. Even if frequencies, span of service, and direction of service were improved, it is unlikely that originating ridership would dramatically increase.

One of the best methods to measure ridership potential is to examine the existing ridership patterns and growth. With rail service, a doubling of service could double, triple, or even quadruple existing ridership. Even if ridership to Seattle quadrupled from 25 to 100 passengers, park-and-ride demand would reach around 100 stalls. Based on our experience, it is unlikely that ridership at Tukwila Station would quadruple. Ridership at Tukwila Station has been limited even though parking is available, the peak arrival times for commuters to the Seattle market are being made now, and there are seats available on the existing trains.

The ridership pattern at Tukwila Station is a clear example where the market has spoken and the demand for Sounder from Tukwila Station to downtown Seattle is limited. Several factors may contribute to this. Signage to the existing station is poor and the temporary facilities at the station

(both parking and platforms) are not inviting. Access to/from residential areas is poor – there is no easy way for potential passengers from South Renton to get to Tukwila Station without significant out-of-direction travel. In addition, there are several competing facilities such as the South Renton and Interurban Park-and-Rides, where bus service is more frequent and has better travel times to downtown Seattle, particularly north downtown, than Sounder service from Tukwila Station. These competing facilities also have a way for passengers to get back to their cars during midday, which Tukwila Station does not.

The market for parking demand as a result of AMTRAK service at Tukwila Station is harder to quantify. The Tacoma AMTRAK station has approximately 66 stalls and the Lacey station has approximately 90 stalls. Assuming that the marketplace is similar, the AMTRAK parking demand and the commuter market into Seattle parking demand may be met with 200 stalls.

The lack of park-and-ride demand at Tukwila Station is a unique case as it is contrary to both local and national trends regarding the insatiable demand for commuter rail parking. It is also unique in that the two closest bus park-and-rides (Interurban and South Renton) are both over capacity, yet Tukwila Station has not been able to siphon off that demand.

Based on the market conditions at Tukwila Station, two-hundred park-and-ride stalls should be sufficient to meet future parking demand. In the unlikely case that additional parking will be needed in the long-term future, the existing station parking access should be configured so that it can be structured in the future.

Bus Facilities

The draft station design includes a 150 foot long area for buses and passengers, or between two and three bays, depending on bus size. This is enough to handle the large volume of buses that travel through the facility, i.e., routes that do not begin or end at Tukwila Station. It is, however, inadequate for future bus service needs. Long-range plans show potential for up to five routes terminating at Tukwila Station. At a minimum, layover space for an additional three buses is necessary; four spaces are desirable.

Pedestrian Amenities

Rail station walking draw areas typically extend at least ½ mile. The draft station design incorporates a new walking path from the rail platforms to the existing sidewalk on Longacres Way just west of the UP railroad. No provisions for sidewalks or walking paths have been made from the rail platforms to Strander Boulevard. It is also unclear how the new platforms tie into the Boeing Longacres pedestrian paths, even though this is a walking pattern seen today even with the limited train frequency.

Other than Boeing Longacres, there are very few destinations within easy walking distance of Tukwila Station. However, today's conditions should not form the basis for the pedestrian network within Tukwila Station. At a minimum, the station design should include a pedestrian connection to Strander Boulevard, Boeing Longacres, and a direct connection crossing West Valley Highway, preferably tying into a new river crossing and access into the Tukwila Urban Center.

Placemaking

Due to budget constraints, the draft Station design is functional, yet it is not a placemaking location, such as Auburn, Kent, or Sumner. The station locations in these other communities are well marked by both signage and a placemaking distinct station. The current Tukwila Station location is not signed well and is virtually invisible.

Any hope for the Tukwila Station becoming more visible in the community and acting as an anchor for a Transit Oriented Development depends on changing the station design from its current auto-oriented incarnation into more of a pedestrian destination. A more placemaking, visible station should lead to increased ridership. In addition, a visual connection between Tukwila Station and the Tukwila Urban Center are vital to address the public perceptions that no connections between the two locations exist.

Access to Tukwila Station

As described in Chapters 3 and 4, the I-405 BRT must stop in ridership generating areas such as the TUC in order to increase its ridership potential. Without additional ridership, the I-405 BRT will likely fail due to insufficient rider potential. One of the critical elements in ensuring that the I-405 BRT serves the TUC and Tukwila Station is determining how to reduce travel times to these locations.

One of the ways previously discussed that would improve access to Tukwila Station has been the Tukwila Station I-405 Direct Access Ramps (DAR). While this option would improve transit access to/from Tukwila Station, technical challenges and the associated costs have removed this option from further consideration in the immediate future.

A second way to improve access to Tukwila Station is to provide an access from Strander Boulevard to the Tukwila Station area. Such an access will provide travel time advantages if the I-405 BRT directly serves the Station (a different service scenario calls for the BRT line to stop directly on Strander Boulevard and not go directly into the Station). The new access from Strander Boulevard into the Tukwila Station area is desirable, but not absolutely necessary from a transit standpoint. The access is much more important to help with vehicular circulation, as shown in the Tukwila Urban Center Subarea Plan.

Tukwila Station Recommendation

The draft station design does not meet the needs of Tukwila as a transportation anchor. It calls for parking that is unnecessary, has inadequate pedestrian facilities, and has no bus facilities. A complete redesign of Tukwila Station is necessary in order to create a community and transportation focal point, resize the parking lot to be in line with actual demand, expand bus facilities to facilitate the transfer to/from trains, and link it to the TUC core. Tukwila Station represents a unique opportunity to create a community focal point.

S. 154th Street Station

The planned S. 154th Street Station includes provisions for parking expansion if demand warrants. It also includes bus zones on S. 154th Street and within the station itself, which will ease transfers between buses and LINK. A bus zone on northbound International Boulevard immediately adjacent to the West Pedestrian Access Stair should be considered to prevent out-of-direction travel for existing bus patrons.

Bus Shelters

Bus shelters should be installed in high ridership locations. There are seven high ridership locations within Tukwila that warrant new shelters (**Figure 5-1**). The shelters, if part of a transit corridor, should architecturally fit in with the rest of the corridor.

Transit Signal Priority (TSP)

Bus travel times are extraordinarily dependent on existing traffic conditions, as they share a common street with automobiles. Bus travel times have been increasing as overall congestion has increased, leading to increased operating costs for King County Metro. TSP represents one low-cost way to improve bus speed and reliability.

International Boulevard, Andover Park West and Strander Boulevard have the frequency and ridership loads that would warrant TSP implementation. The City of Tukwila is currently in the process of interconnecting signals. As part of this project, in cooperation with King County Metro, the City should incorporate the hardware necessary to upgrade these signals to “TSP-ready”.

Appendix A

Focus Group Report

Focus Group Discussions Concerning Public Transportation Services for the Tukwila Urban Area

SUMMARY REPORT

BACKGROUND AND METHODOLOGY

Perteet Engineering, Inc., of Everett, Washington, is working with the City of Tukwila to develop the Tukwila Transit Network Plan. The study reviews all elements of the public transportation system serving the Tukwila Urban Area. As part of this study, focus group discussions were conducted with transit users and with business owners and managers to learn more about attitudes toward current services and desired improvements to services and facilities. Carolyn Browne Tamler, principal of Carolyn Browne Associates, a Bellevue marketing research and community involvement consulting firm, facilitated the discussions.

Two discussions with riders were held during the evening of Tuesday, September 16, 2003, in the Community Resource Center of the Tukwila Police Department located in the Westfield Southcenter Shopping Mall. Cards were distributed at several bus stop locations and at the Sounder train station to recruit people interested in discussing issues about public transit. Most of the participants were recruited through contacts made at the Interurban Park-and-Ride and at the Sounder train station. Riders were approached at the Southcenter bus stop and at bus stops at the intersection of Highway 99 and S. 144th Street, but many of these riders are non-English speaking and/or low-income, and were not comfortable completing the recruitment card. Recruiters used the information on the completed cards to select people to invite to the discussions. The groups were divided as follows: (1) riders living in Tukwila or Renton, and (2) riders traveling in or through Tukwila from other locations.

A third discussion was conducted with Tukwila business owners and managers at the Conference Room of the Southwest King County Chamber of Commerce, 16400 Southcenter Boulevard, in Tukwila. This group met from Noon to 1:30 p.m. The business participants were recruited with the help of the Southwest King County Chamber of Commerce.

This report includes summaries of the major themes from the discussions and the participants' comments. Participants who are current users of the transit system are referred to as "riders," while owners and managers of businesses in the Tukwila area are referred to as "business people."

The opinions expressed throughout this report are those of the discussion participants. It should also be noted that the comments reflect individuals' perceptions of facts. Although information obtained from focus group discussions is not statistically projectable, the responses and ideas from the participants do provide a representative portrait of the opinions of the population from which they were drawn, in this case, people who are currently using public transit in or out of Tukwila, and members of the business community in Tukwila.

SIGNIFICANT THEMES FROM THE THREE DISCUSSIONS

All of the groups were consistent in their suggestions for improving transit service and facilities for the Tukwila Urban Area. The most frequently repeated concerns, included:

- Provide some type of shuttle, or other frequent bus service between the Southcenter Mall and the businesses along or near Southcenter Parkway. People who work and shop in the Tukwila Urban Area and want to use transit are currently limited in their access to all of the businesses in the area.
- Provide additional express options. Tukwila is a transit hub. Each day, thousands of people pass through the area traveling to other destinations. Despite this fact, transit does not yet provide express options for many of these destinations. There is an especially high demand for more express options from Tukwila to Downtown Seattle.
- Modify service to reflect current transit needs. Tukwila is a major destination. Although the population of Tukwila is small, each day some 50,000 people (according to an estimate from one of the participants in the business discussion) come to Tukwila to work. Additionally, thousands come to Tukwila to shop, especially on Friday, Saturday and Sunday. The current transit routes and schedules do not appear to respond to these needs.
- Improve Sounder service and improve bus connections with Sounder. Varied work and shopping schedules now mandate that Sounder service be provided beyond traditional commuter times. Further, additional bus connections are needed between Sounder and other travel destinations, as well as to businesses located within Tukwila.
- Improve bus stop maintenance. Bus stop locations in Tukwila need to be better maintained, and more bus shelters are needed (many riders are under the impression that the bus stops on the Eastside are nicer because they are in high income areas).
- Increase frequency of service on major routes. Many of the major routes need more frequent service (Routes 101, 150 and 174 were mentioned); and express bus hours should be extended to provide service for those who work beyond the traditional 8 a.m. to 5 p.m. workday (Routes 140, 160, 163, 240 and 941 were mentioned).
- Increase safety. Many people are concerned about safety on the buses, especially on buses that travel Highway 99 (Route 174). They want to see uniformed security people on routes that have a history of safety incidents.
- Provide additional bus stops around the Southcenter Mall.
- Provide service from Tukwila west to Highway 99 and east to the Kent Valley.
- Increase marketing efforts. Transit is a concept that needs more marketing, in general. The major benefits – no parking costs, no traffic hassles, and in some instances, shorter travel times – should be known to more commuters. Many employers will be willing to help with marketing efforts if they are given the information to provide to their employees, and if bus stops are conveniently located to their workplaces.

RESPONSE SUMMARY FROM RIDERS LIVING OUTSIDE THE TUKWILA-RENTON AREA

SUMMARY

Eleven people confirmed their intention to participate in the discussion when they were contacted on the morning of September 16. However, only four people were present for the discussion at 5:30 p.m. These four participants engaged in a lively discussion with the moderator. In an effort to learn more about the attitudes of those who did not attend, the recruiters at Consumer Opinion Services were asked to call back those who did not show, as well as others who qualified, but had previously said they could not attend the discussion. The tabulations of those who were contacted for this brief telephone survey are included at the end of this section of the report.

Based upon the recruiting cards returned, primarily from the Interurban Park-and-Ride and the Sounder Train Station, a high proportion of transit riders traveling to or through Tukwila commute from the south to the north, coming from areas as far away as Tacoma, Puyallup, Bonney Lake and other areas in South King County and Pierce County. Many have access to a car but choose to use transit to avoid the cost and hassle of parking, as well as the inconvenience of driving long distances through heavy traffic.

The most important transit improvements desired by the four discussion members and by those who were contacted later by telephone include:

- More frequent bus service is needed for the major routes serving Tukwila; many major routes only provide hourly service;
- Additional service is needed along Southcenter Parkway;
- Bus stops need better maintenance and more bus shelters should be provided;
- More East-West routes are needed; and
- More express buses are needed in and out of Tukwila, especially to Seattle.

There was strong agreement among the participants that Tukwila should market itself as a shopping destination, and provide better bus access to the stores and buses.

PARTICIPANTS

Only four of the eleven confirmed participants attended the discussion. Three are riding Metro buses only, while one person is riding Sounder. Only one in the group has access to a car; the others use buses for all of their transportation needs, except when friends can provide a lift.

Name	Years Riding Local Transit	Occupation	Residence	Age
Kelly	5	Restaurant employee	Auburn	22
Sean	3	Manufacturing	Auburn	25
Evans	4	Student at BCTI	Kent	26
Jeremy	12	Computer Administrator	Tacoma	34

WHAT'S WORKING WELL WITH CURRENT TRANSIT SYSTEM?

The four riders started the discussion by sharing their positive views of the transit system. These comments included: “The drivers are polite;” “The buses are usually on time;” “There are many routes;” There seem to be enough bus stops and they are generally clean.”

All agreed they feel safe when riding a bus and that purchasing tickets is easy. They have experienced no difficulties obtaining and using transfers.

ARE THERE LOCATIONS NOT CURRENTLY SERVED WHERE YOU WOULD LIKE TO SEE BUS SERVICE ADDED?

The Business Computer Training Institute (BCTI) student said there is no direct service to the school at present, which is located at 15445 – 53rd Avenue S. He says several students there have commented on the need to provide bus service to the school.

Two people who commute from Pacific each day commented that Route 917 runs in a loop on the hour, but not on Sundays, which makes it difficult at times to get to Route 150 that they take into Tukwila.

WHAT ARE THE CURRENT MAJOR ISSUES RELATING TO PUBLIC TRANSIT IN TUKWILA?

There was agreement among all the participants that the buses that go to Bellevue “are newer and nicer quality than the ones that come to Tukwila.” They also noted that the Sounder buses are generally nicer than the Metro ones.

The major issues identified by the members of the group included:

- Lack of bus service on and near Southcenter Parkway, which makes it difficult for people who work in the area to take a bus to the business. The buses that do go there only run hourly. The participants suggested adding local shuttle service that would circulate between the Mall and the other major retail businesses in the Tukwila Urban Area.
- Lack of bus shelters. There are few covered bus shelters in the Tukwila area, and many compared this to the abundance and quality of bus shelters they have noticed in Bellevue.
- Travel between Tukwila and areas to the West (Highway 99) and East (Kent) is difficult.
- Buses need to operate more frequently. As an example, they pointed out that Route 150 runs only once an hour in the early morning and late evening. Many other routes provide only hourly service. Since many people now work hours beyond the normal 9 a.m. to 5 p.m., the bus service is not matching the needs of employees, many of whom currently have to choose to arrive early or late to work. It is also not serving the needs of those who might want to take the bus to shop in Tukwila.

MARKETING IDEAS

Although one person suggested that most people use public transportation out of necessity, there was agreement that using transit for special purposes is a good way to familiarize people with what it is like to use transit. Their ideas included:

- Buses for special events, such as Mariners and Seahawks games;
- Special buses during the Christmas holiday season from park-and-rides to Southcenter – all agreed this would be a great idea since “holiday traffic is horrible” at Southcenter; and
- Sounder service is great from Tacoma and draws people who might otherwise never use public transportation.

Someone added that stress and miles driven are great incentives to try using transit.

There was also strong agreement that Tukwila needs to market itself as a shopping destination and provide better bus access to the stores and buses.

CONCLUSION: WHAT ARE THE THREE MOST IMPORTANT CHANGES, IMPROVEMENTS FOR TRANSIT SERVICE IN TUKWILA?

- Jeremy: More frequent buses
 Covered, better bus stops; improve technology at bus stops (sensors to announce bus is coming/light the stop)
 Reward riders through incentives with retail stores (shop at a store and get a bus pass)
- Evans: More frequent buses
 Cleaner bus stops and shelters
 Increase frequency of bus service
- Sean: Provide covered shelters/seating at bus stops
 More east-west routes; it is difficult to get service from Tukwila to Kent or to the residential areas to the west
 Increase frequency of service
- Kelly: Better bus accessibility to stores and businesses on Southcenter Parkway
 More express buses in and out of Tukwila to major transit centers
 Special event and seasonal bus service
 Promotions with retailers to provide free bus use with purchase

RESPONSE SUMMARY FROM RIDERS LIVING WITHIN THE TUKWILA-RENTON AREA

SUMMARY

Most of the participants are commuting from their homes in Tukwila or Renton to their jobs, most of which are in Seattle. Largely, they are choosing to use transit to avoid parking costs and traffic hassles at their commute destinations.

The service and facilities improvements deemed most important by the riders include:

- More frequent bus service around Southcenter and to the businesses on and near Southcenter Parkway (such as a shopper's shuttle);
- Improving maintenance at bus stop locations in Tukwila;
- Extending bus routes serving the Fairwood Area (Routes 155, 148 and 101) past 140th to provide service to the new residential neighborhoods off Petrovitsky Road;
- More frequent service on the major routes (Routes 150, 174, 101);
- Establishing Tukwila as a major transportation hub with links to other areas throughout King County and Pierce County;
- Providing facilities (restrooms and drinking fountains) at the major transit centers; and
- Extending the hours for express bus service (Routes 140, 160, 163, 240, and 941).

Participants noted that there seems to be little marketing of transit. They believe more advertising will promote the key benefits of transit – no parking or traffic hassles – and, hence, will build usage.

PARTICIPANTS

Nine of the 12 people who confirmed their attendance participated in the discussion. The participants included five women and four men, ranging in age from 31 to 60. Six of the nine have access to a car and are choosing to use transit. All are using the bus to commute to work. Three are using Sounder or Sound Transit in addition to Metro.

Name	Years Riding Local Transit	Occupation	Residence	Age
Dean	20	Engraver	Tukwila	52
Toni	5	Legal Secretary	Tukwila	60
Dona	5	Pharmacist	Tukwila	48
Cynthia	5	Administrative Assistant	Renton	45
Donna	29	Accountant	Tukwila	48
Inez	22	Business Owner	Tukwila	47
Kim	4	Engineering Manager	Renton	43
Aotham	3	Internet Engineer	Tukwila	30
Jason	7	Telecommunications	Tukwila	31

WHY ARE YOU CHOOSING TO USE TRANSIT IF YOU HAVE A CAR?

Most of the participants are traveling from Tukwila and Renton to Downtown Seattle, and most are choosing to use transit. The greatest motivators for using transit are to avoid the cost of parking in Downtown Seattle and avoiding the traffic hassles of driving into the city. They say that taking a bus or train into Seattle is easy and convenient. One person has an employer providing a free bus pass. Another drives to the train station in Tukwila and takes Sounder into Downtown Seattle. One person simply avoids driving because it is “dangerous and expensive.”

WHAT’S WORKING WELL WITH CURRENT TRANSIT SYSTEM?

The most positive responses concerning transit relate to the variety of good connections between Seattle and Tukwila. Those who can use the Sounder or Express buses say these are good services and save travel time. One person in the group had special praise for the number of bus stops on Route 128 between Southcenter Boulevard and International Boulevard, claiming it was easy to find a place to catch a bus.

WHAT ARE THE CURRENT MAJOR ISSUES RELATING TO PUBLIC TRANSIT IN TUKWILA?

Those who live in the Fairwood Area of Renton are feeling frustrated in trying to use transit. One of the discussion participants explained, “From Petrovitsky Road, I can’t get to the bus without having to drive; but, there’s no place to park at 140th and Petrovitsky where the bus stop is located; if I continue into Downtown Renton, I can’t find parking in Downtown Renton.” She added bus routes are needed in the neighborhoods to connect with buses going to other locations and to take residents to the Sounder train station.

It appears that many people don’t know the exact location of the Sounder train station; only four of the nine participants were knowledgeable about where to catch the train. One of the four found the location by accident. Those who knew the location pointed out that the only guide directing people to the Sounder Station is a tiny sign with a logo.

Bus connections from the Sounder station are not adequate (“I get off the train and see the bus leaving and going around the corner; then I have to wait 30 minutes for the next”); at present, there are only a few connections from the Sounder station to buses traveling to other locations.

Route 124 only runs three times in the morning and three times in the evening, and only once an hour. A participant commented, “If I miss one of these buses, I am late for work.” The buses also do not run on the weekends.

Southcenter is a hub, but buses do not go around the Center and there are few bus options that go to businesses on Southcenter Parkway. It was suggested, and all agreed, that it would be nice to have a shopper’s shuttle in the Southcenter area similar to one operated in the shopping district of Kent.

Bus stops for the Southcenter Mall should be located in the mall to make it safer to go from the bus into the Mall.

SUGGESTED IMPROVEMENTS AND PRIORITY RATINGS

Participants were asked to make a laundry list of the improvements they would like to see. After the list was completed, they were asked to choose seven items (from the 29 listed) that they believe to be most important. The suggestions are organized below with those receiving the highest priority ratings listed first:

Suggestion	Number Giving Priority
<ul style="list-style-type: none"> • Provide a shopper's shuttle around Southcenter. 	5
<ul style="list-style-type: none"> • Maintain Tukwila bus stops at the same level as those in Bellevue (all agree that bus stops in Bellevue are much nicer than in Tukwila – “they have more money”). 	5
<ul style="list-style-type: none"> • Extend Routes 155, 148 and 101 past 140th to provide service to the new neighborhoods off Petrovitsky Road. 	5
<ul style="list-style-type: none"> • Provide more frequent service for the main line routes (Routes 150, 174, 101). 	4
<ul style="list-style-type: none"> • Make Tukwila a regional transit hub so it is easier to get from Southcenter to other locations. 	3
<ul style="list-style-type: none"> • Provide maintained restrooms (even if restrooms were coin-operated) and drinking fountains at the major transit centers. 	3
<ul style="list-style-type: none"> • Extend hours for express bus service (Routes 160, 163, 941, 140, 240). 	3
<ul style="list-style-type: none"> • Make improvements to bus stops - more seating, more shelters. 	3
<ul style="list-style-type: none"> • Provide air-conditioned buses (“Why are Sound Transit buses air conditioned?”). 	3
<ul style="list-style-type: none"> • Improve safety on Route 174 (“I’ve heard it’s the most dangerous route in Seattle”); especially at night. 	2
<ul style="list-style-type: none"> • Post schedules at the bus stops. 	2
<ul style="list-style-type: none"> • Provide better transfer connections and coordination. 	2
<ul style="list-style-type: none"> • Provide an express bus from Downtown Seattle to the Sounder train station to make up for missed bus service connecting to the train station (“It takes forever to get from Tukwila to Seattle on the 150”). 	2
<ul style="list-style-type: none"> • Provide express bus service from Fairwood Area to Downtown Seattle. 	2
<ul style="list-style-type: none"> • Provide direct bus service from Tukwila to the Eastside (currently, it is impossible to get there without going to Downtown Seattle and transferring). 	2
<ul style="list-style-type: none"> • Provide express service on Route 155; it currently takes too long to get to Tukwila from the neighborhoods. 	2
<ul style="list-style-type: none"> • Create more bus stops/bus routes around Southcenter. 	2
<ul style="list-style-type: none"> • Add uniformed security people on the buses; provide a hotline number to report regular problem riders; have bus drivers enforce rules on the bus (radios, cell phones, sleeping across the seats, etc.). 	2
<ul style="list-style-type: none"> • Promote buses going to special events (such as buses to Mariners and Seahawks games). 	2

Suggestion	Number Giving Priority
<ul style="list-style-type: none"> • Ensure that bus stops are near crosswalks at the transfer points and in busy areas. 	2
<ul style="list-style-type: none"> • Review usage of local shuttles to determine why they are not being more fully used (Route 124); are they being marketed? Are they convenient routes? Are they not running often enough? (“It doesn’t go anywhere I need to go”). 	1
<ul style="list-style-type: none"> • Expand Interurban Park-and-Ride (“It’s full before 7 a.m.; it’s always full”); South Renton and K-Mart parking lots are full (people are using these locations as a park-and-ride lots). 	1
<ul style="list-style-type: none"> • Provide services for the blind at major bus stops. 	1
<ul style="list-style-type: none"> • Provide more kneeling buses for easier access. 	1
<ul style="list-style-type: none"> • Increase promotions using media other than the Web; use space on the bus. 	1
<ul style="list-style-type: none"> • Provide more sidewalks around the transfer points. 	1
<ul style="list-style-type: none"> • Create a Metro route map that is less confusing; Provide route maps on the buses. 	-

IDEAS FOR MARKETING TRANSIT USE

There appears to be very little marketing of transit at the present time. Participants had several suggestions to marketing the system:

- Increase marketing efforts on the buses themselves;
- Market special event service better (“but don’t cram people into the buses.”);
- Develop television commercials (“I have never seen a TV commercial for Metro.”);
- Develop radio commercials which would be good for people who are stuck in traffic;
- Promote how easy it is to get into Seattle using the bus. All agreed that parking costs and traffic are two major incentives for using transit;
- Work to improve Metro’s image by providing higher quality buses and making them more comfortable.

CONCLUSION: WHAT ARE THE THREE MOST IMPORTANT CHANGES, IMPROVEMENTS FOR TRANSIT SERVICE IN TUKWILA?

Jason More comfortable, luxurious buses
 Improve safety so people are not afraid of riding
 Make bus service more reliable

Aothan: More frequent mainline service
 Better service around Southcenter
 Better infrastructure around the transfer points

- Kim: Frequent service around Southcenter and to and from the major park and rides
Regional transit facility targeted to Seattle commuters
Express routes to Seattle from outlying neighborhoods
- Inez: Need shopper's shuttles in the Southcenter area
More frequent service
Buses need to be on time
- Dona: Improve safety on the buses
Air-conditioned buses & kneeling buses
More evening service on the mainlines
- Cynthia: Better coordination of buses to improve transfer service
More express service directly from neighborhoods to Downtown and to the train station
Extend peak hour service
- Donna: Better connections between Sounder and other bus service to the
Local areas (Mall, Downtown Renton, etc.)
Improve parking at park and rides
Expand service from Fairwood Area to Seattle and the train station
- Toni: Shopper's shuttle; better connections for shoppers in the area
Better coordination of bus and train schedules
Expand spaces in the park and rides
- Dean: Make Tukwila a regional hub
More buses in Southcenter
More bus shelters

RESPONSE SUMMARY FROM BUSINESS OWNERS AND MANAGERS DOING BUSINESS IN THE TUKWILA URBAN AREA

SUMMARY

The business people who came to the meeting are interested in providing any assistance they can to help improve the public transit services in and out of Tukwila. They pointed out the immense traffic problems around the Southcenter Mall on the weekends (Friday through Sunday) and during the winter holidays.

Many of these business professionals currently provide some type of subsidy to employees who commute using transit; others are willing to consider the possibility of doing so. They are also willing to consider promoting other types of transit use to their employees.

Bus stop locations at the Southcenter Mall do not provide convenient drop offs for many of the Mall customers; the BECU Gateway employees who use transit must walk a mile from the bus stop to their work location.

As a demonstration of their desire to help, all of the participants said they are willing (and eager) to come to another meeting to review suggested alternatives for public transportation.

Here are the priorities for improvements that were suggested by the business group:

- Provide bus equipment to match the needs of the community; i.e., smaller buses for the neighborhoods and larger, articulated buses for the express routes;
- Improve connecting bus service with the Sounder train; more frequent buses, buses going to more destinations from the Sounder station and buses going directly to the local businesses in Tukwila;
- Provide more convenient bus service between the Southcenter Mall and other businesses in the Tukwila Area, especially the businesses on Southcenter Parkway;
- Provide more frequent service on the major routes; and
- Provide more bus information to employers to pass on to their employees.

PARTICIPANTS

Nine participants were recruited with the help of the Southwest Chamber of Commerce. They included four women and five men, most of whom are owners or managers where they are employed. The participants represented a broad range of types and sizes of businesses, plus the Tukwila School District. All expressed a strong commitment to identifying ways to improve public transportation within the Tukwila Urban Area.

Name	Business/Position	Number of Employees
Rick Graff	Office Depot, Store Manager	30
Michael Silver	Tukwila School Dist., Superintendent	350 employees 2,600 students
Nancy Damon	S.W. King Co. C of C, Executive Director	5 employees 500 business
Mike West	South Town Auto Rebuild, Owner	7
Jean Christofferson	Bon-Macy's, Manager	460 620 in fall
Bill Arthur	Segale Business Park, Manager On Tukwila Planning Commission. Segale owns retail center in town	24
Teresa Kiekenapp	Costco, Human Resources Manager	375 450 for holidays
Todd Pietzsch	BECU, Manager of Bus. Development	500
Diane Jensen	Highline Com. Hospital, Emp. Benefits	300

EMPLOYEES TAKING PUBLIC TRANSIT

Most participants claimed they know of only a few employees who take the bus. Sounder has increased the ability of some employees to get to work (one of the companies provides a vanpool service to and from Sounder), although some employees who might use Sounder cannot get transportation from the train station to work.

WHAT IS WORKING WELL FOR TRANSIT NOW?

Most notably, those who use transit avoid the parking cost and hassles in Downtown Seattle. Tukwila is a major pass-through area; many people transfer in and out of Southcenter to other places.

Public transit provides transportation services for many low-income people who use the buses along Highway 99. The Tukwila Schools Superintendent noted that about 24 students use Metro when they miss regular bus service.

Most BECU employees are using vanpools because there is no bus service provided to the Gateway facility.

SUGGESTED IMPROVEMENTS & PRIORITY RATINGS

Participants were asked to make a laundry list of the improvements they would like to see. They provided 17 suggestions, from which they were asked to select five they believed to be the most important priorities.

Suggestion	Number Giving Priority
<ul style="list-style-type: none"> Provide bus equipment that matches the needs of the community; smaller buses are needed for the neighborhoods, and large, articulated buses are needed for express routes. 	7
<ul style="list-style-type: none"> Provide more frequent service between Sounder and bus service to other areas. “Sounder is attractive because it saves a lot of time, but the poor links to other transportation make it not attractive.” (The Bon-Macy’s manager says that many in administration would like to take Sounder, but can’t get connections to Southcenter); “I would hop the train in a minute, but I can’t get to work after I get up here.” 	6
<ul style="list-style-type: none"> Provide a shuttle service between Sounder and local businesses; Businesses or individuals may be willing to subsidize shuttle service between Sounder and other businesses in Tukwila. 	5
<ul style="list-style-type: none"> Make bus service convenient between the Mall and businesses on Southcenter Parkway and other areas. 	4
<ul style="list-style-type: none"> Provide more frequent service on the major bus lines. 	4
<ul style="list-style-type: none"> Provide more bus information to local businesses to pass on to their employees. 	4
<ul style="list-style-type: none"> Improve safety, especially on buses and at bus stops on Highway 99 (Route 174) and on other routes; there are drug sales going on at bus stops; people need to feel safe riding on the buses. “174 is the poster child for bus safety problems.” 	3
<ul style="list-style-type: none"> Locate bus stops more conveniently. 	3
<ul style="list-style-type: none"> Acknowledge Tukwila as a destination (Boeing, Costco, Bon-Macy’s, School District are all major employers); City says 50,000 commute to Tukwila everyday. 	3
<ul style="list-style-type: none"> Provide east-west service between S. 144th Street and Pacific Highway to the Tukwila Urban Center/Hwy. as well as Highway 99 to Interurban Ave. 	2
<ul style="list-style-type: none"> Coordinate bus schedules with the needs of retail sales people; Bon-Macy’s employees begin work at 6 a.m., 9:30 a.m., 1:30 p.m. 	1
<ul style="list-style-type: none"> Maintain bus stops (“Some look like trash pits.”). 	1
<ul style="list-style-type: none"> Provide more direct bus service in and out of Tukwila. 	1
<ul style="list-style-type: none"> Increase transit use promotions. 	1
<ul style="list-style-type: none"> Provide bus service for families who need to travel to social and health service providers. 	-
<ul style="list-style-type: none"> Make Southcenter Mall and Southcenter Parkway a more transit-friendly environment – better service, frequency, transit lanes, pullouts. 	-
<ul style="list-style-type: none"> Provide more access from residential areas to Tukwila businesses. 	-

During the Christmas shopping time, the area is not a traffic-friendly place. It can take 40 minutes to exit the parking lot in December. A friendlier bus system could help to improve sales by allowing better access to the businesses from transit. In doing so, people could avoid the

traffic and parking problems at Southcenter. Locally, it can take an hour to go two miles on the buses.

Southcenter is especially busy on Friday, Saturday and Sunday. “Traffic is all about the weekends here.” Local people don’t come down to the Mall to shop on the weekends. There is no bus service to local neighborhoods, which means local people cannot take a bus to the Mall or the other Southcenter businesses.

IDEAS FOR MARKETING TRANSIT USE

First, there was consensus that if transit service can be improved, there will be more benefits to promote.

Some of the marketing ideas suggested included:

- Provide more bus information to local businesses to give to their employees;
- Provide maps and information showing the system displayed in major transit centers;
- Increase promotions and provide incentives for riding transit;
- Six of the nine business participants are either already subsidizing bus travel, or would be willing to provide some kind of subsidized bus pass. They believe this is an excellent incentive to use transit; and
- Some businesses might be willing to encourage bus use, but the concept would need to be tested first.

CONCLUSION: WHAT ARE THE MOST IMPORTANT CHANGES / IMPROVEMENTS FOR TRANSIT SERVICE IN TUKWILA?

Diane	Mini van to provide service from Sounder to work More direct routes from Tukwila to other areas
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Todd: Make quick, easy connections from Sounder and Sound Transit coming into Tukwila
Match transportation needs of those coming in to and out from Tukwila

Teresa: A light rail system in place
Shuttle system that runs in the Southcenter area

Bill: Plan transportation services based upon the needs of the people
Copy what has worked well elsewhere
Look at some forms of alternative transportation (Sounder, light rail, people mover, etc.)

Jean: Recognize that Tukwila is a destination and not just a pass-through area, and identify the needs of the people coming into this hub

Mike: I have no confidence in the Metro bus system; it's more of a nuisance on Highway 99

Nancy: Make it quick, convenient and easy intra and inter; people need to know it's there and it's going to move them

Michael: People need to think of Tukwila as a hub and identify where the spokes go to increase ridership: South King County, Eastside, etc.

Rick: Study the travel patterns of people coming in and out of Tukwila and travel times; suit transportation to travel needs

INTEREST IN COMING TO ANOTHER MEETING TO LOOK AT ALTERNATIVES

All were willing to come again and help to evaluate proposed improvements.